



PEEC
Pocono Environmental
Education Center



Winter Solstice 2019

Seasons

A Quarterly Publication to Advance Environmental Literacy

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Education Center**

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Reindeer Lichen

Lichen: An Under-Appreciated Hero

By Emma Roth

When I take students on hikes, I can almost guarantee they will ask about the scaly green stuff growing on the trees. When I ask them what they think it is, they almost always say moss, or mushrooms. Very occasionally, I'll have a student correctly identify it: lichen. Even if a student knows what it is, they don't really know what it is. Or how important lichen is to maintaining life on land.

The humble lichen is actually two organisms, living so closely in a mutually symbiotic relationship that they have essentially become one. Lichen consists of an algae and a fungus, each providing a vital service to the other. The algae are able to photosynthesize and create sugars. They then give some of these sugars to their fungus companion. The fungus in turn provides a protective and moist environment for the algae to live in.

But what is really special about lichen is the role they play for life on land. In a mature ecosystem, there are a few factors that can be guaranteed: producers create food, consumers eat the producers, and decomposers turn dead organic material into soil, from which new producers can grow. It is a stable cycle. But what happens when disaster strikes? Imagine a glacier scouring the land, leaving nothing but bare rock in its wake. How does the ecosystem recover?

Continued on page 5

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Message from the Executive Director

Winter 2019 / 2020

One of the many amazing things about PEEC is that our miles of hiking trails are free and accessible to the public year round. In 2019, we saw a tremendous uptick in hikers on Tumbling Water Trail as it was highlighted in Outside Magazine as the best trail in Pennsylvania. While such acclaim is heartwarming (and justified) the notoriety brings more users of the trail and potentially more degradation of a wonderful natural resource. There is definitely a conflict between preservation of natural resources and access by those that want to experience the natural world. It is an analog to the Heisenberg uncertainty principle – where the very observation alters the thing being observed. This tension between use and protection has been elevated in Delaware Water Gap National Recreation Area in another way, as the National Park Service has proposed fees for both entrance to the Park and/or recreating at specific sites in the Park. NPS claims to need the fees to support deferred maintenance and the upkeep of user facilities such as roads, parking areas, trails, bathrooms, and building maintenance, but the very fees they want to charge (\$25 per car for up to 7 days) are exclusionary and will restrict access for those without means or those low impact users that just want to drive through or hike.

It is still unclear how and if these fees would affect access to PEEC or whether our students and other visitors would be excluded from these fees. Ironically, if PEEC is excluded from the Park fees, does this mean our trail visitation will escalate dramatically as people seek free hiking trails? NPS has encouraged people to comment on their proposal (both the fee issue and their plans for increased amenities) and many people have done so online, in writing and at various public meetings. Hopefully, after the first round of comments, there will be a new NPS draft of the plan that has more specifics on whether fees are for Park entrance or for using certain amenities. A detailed set of financial projections is also needed to highlight the net fees after expenses for fee collection and specific benchmarks on how, when and how much of revenues will be used to improve the Park user experience. This issue resides at the very essence of the National Park Service mission, which is to both conserve resources and provide for their use and enjoyment. Fees, if spent prudently, may help to conserve resources, but may also be exclusionary and discourage diversity, equity, inclusion, and conservation education. I urge you to voice your thoughts and concerns.



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LOVE CAMP?

JOIN US FOR THE DAY WITH 2019 VACATION NATURE CAMP

WINTER 2019 DAY CAMP

"SNOW SURVIVAL"

THURSDAY, DECEMBER 26TH

Animals survive, can your camper? Join us and learn the secrets to winter shelters and fire building.

"ANIMAL ADVENTURES"

FRIDAY, DECEMBER 27TH

Wildlife still abounds in winter; we'll learn ways to care for them even in the cold!

9AM TO 4PM
GRADES 1-5 | \$40 PER DAY



ADDITIONAL SERVICES

BEFORE & AFTER CARE - \$5 EACH
BAGGED LUNCH - \$10

*Vacation Day Camps must have minimum of 4 campers registered.



Animal Myths: Daddy Longlegs

By George Johnson

For our next installment of animal myths, it's time to talk about everyone's favorite animal: spiders, or to be more exact, arachnids. Daddy longlegs see a ton of hate from children and adults alike, however, they don't really deserve that hate. Over the years, I've heard a quite a bit of misinformation about them in our general culture. In fact, most of what the average person can tell you about them is usually false. Today though, I'm here to set the record straight and even make the argument that daddy longlegs are one of our most important species in the forest.

So, right off the bat, daddy longlegs are not actually spiders. Yes they all have 8 legs, but that only makes them an arachnid, like scorpions. Daddy longlegs look incredibly similar to spiders, hence the mistake, but if you put a daddy longlegs next to a spider, then you'd be able to start noticing those differences. For starters, spiders all have two distinct body segments, an abdomen and a cephalothorax. Daddy longlegs though, only have the single body. Additionally, we all know that spiders can build and create webs to catch their prey. Daddy longlegs, unfortunately, do not have web glands and spend their time hiding in the leaf litter.

Food-wise, spiders are all pure carnivores. They eat nothing aside from other insects and animals. In order to subdue their prey, they also utilize venom which is injected into their victims. Daddy longlegs on the other hand are almost purely scavengers and eat almost exclusively dead, decaying material in the forest. Without them, and other decomposers, we'd be up to our eyeballs with leaf litter, fallen trees/branches, and all kinds of dead critters. Daddy longlegs don't even create venom and are certainly not the "most venomous spider" in the world. (That title goes to the Sydney funnel-web spider in Australia)

If all of this is true though, then how did all this misinformation spread? To me, it appears that it's a classic case of mistaken identity. Daddy longlegs and spiders look extremely similar to each other, especially if you only give them a passing glance. To make matters worse, there's another actual spider (the cellar spider) that looks almost exactly the same as a daddy longlegs.

The daddy longlegs are all over the forest, and you will very likely see them the next time you visit PEEC. They usually prefer to hang-out by themselves on trees or in the leaf litter. Thankfully, daddy longlegs are entirely harmless to humans. Just make sure to remember that the next time you spot one out on the trails!



Educational Improvement Tax Credit - EcoZone



William Penn Foundation - WATER! Program

More Grant Programs!

By Sheri Bone

For the Fall Seasons Newsletter, I reported that we had received some wonderful grant funding that allowed us to bring students to PEEC in the summer for a variety of programs. I am happy to report in THIS Season's newsletter that we continue to get funding throughout the school year for other programs for schools.

Schools from Camden and Philadelphia come to PEEC for a 3 day/2 night stay as part of the WATER! Program, funded by the William Penn Foundation. The students who attend become Watershed Ambassadors, as WATER! stands for "Watershed Awareness: Teaching Everyone Responsibility!" They learn many details about the Delaware River Watershed and take that information home as they create a project about watershed health. (Fact: all of the participating students and PEEC belong to this watershed!) They also have fun with team building, canoeing, campfires, and a variety of other classes that they take in conjunction with the mandatory Watershed related classes. Over the course of 2 years, we have been able to bring over 600 students to PEEC for this worthwhile program.

Area businesses who participate in the EITC (Educational Improvement Tax Credit) program have given money to PEEC for local students to come here for day programs.

Thanks to The Dime Bank, Wayne Bank, Waste Management, and Weis Markets, over 500 area students (East Stroudsburg and Delaware Valley) have come to PEEC and explored the EcoZone and participated in Wildlife Study Hikes.

The Bridge the Gap (BTG) programs have come to an end for this season as the weather becomes cooler. Those extended summer programs included hikes, river paddles, pond paddles, and bike trips on the McDade Trail. Throughout the year, over 1250 people came to PEEC, hiked, and took the BTG surveys to assess our effectiveness in teaching about the watershed and help us plan for future programming. Next year, in addition to

the activities listed above, we will have an overnight paddle on the Delaware River, and an evening paddle on our ponds. Winter activities (snow shoeing and cross country skiing) will again be offered but, as usual, are snow dependent! Check out the 2020 Public Program Calendar on our website and make your outdoor plans now! (Bridge the Gap is also funded by the William Penn Foundation.)

PEEC is very thankful that these organizations/foundations, and the ones listed in the previous Seasons Newsletter, are so very generous. Without their assistance, many students would not be able to attend the varied programs here at PEEC.



Bridge the Gap Program - Bike the McDade Trail

O, Christmas Tree... Now What?

By Stephanie Sherman-Barr

The holiday season is upon us. Time for presents and decorations, fellowship and good cheer, but what about the aftermath? I have become torn between wanting all the cozy warmth of a well-decorated house, cards and wrappings, stockings and stuffers, but find myself wondering where will many of these items go afterwards. My husband has even gone as far as swearing off gifts for himself this year, wanting more simplicity to the holiday rather than commercialization. So my challenge now is how do I keep my holiday cheer without sacrificing so much money and waste?

1. Fake vs. Real Christmas trees, sometimes you shouldn't settle.

Guilty, I currently have a petroleum based stick of lights (artificial tree) in my house. Yes, it's clean, easy and reusable, but the carbon cost of a fake tree to the environment is far more detrimental than purchasing a real tree every year. A real tree sequesters carbon, provides income to local farmers, and can be repurposed through composting or other natural crafts. Not to mention you get that REAL tree smell to your house. If you do settle for fake, remember that plastic has a life of 500yrs+ so it's a forever tree. Reuse or rehome responsibly.

2. Tasteful, not tacky decorations.

Do you really need to go crazy with all the things? Whether it's an overloaded Christmas tree or a house that is gearing up for the Great American Light Fight, it's probably costing you and the environment more than it should. Try finding antique (aka, secondhand) decorations first. I know family members probably have plenty of decorations they can part with rather than buying new. Also, if you're going to invest in new, find something that will last and look nice year after year. If you're tired of the decorations, try finding a new owner for them first.

3. Wrapping paper, where does it really go?

I grew up wrapping presents. It's pretty much the prep for the big event with seeing all the presents under the tree, but does that paper always make it to the recycling? Or does it end up in a big plastic garbage bag headed to the landfill? Go one step further: choose a bag that is reusable, upcycle newspaper that would have been recycled, or, if possible, a container itself pretty enough to get by with. Save money on paper, tape and time.

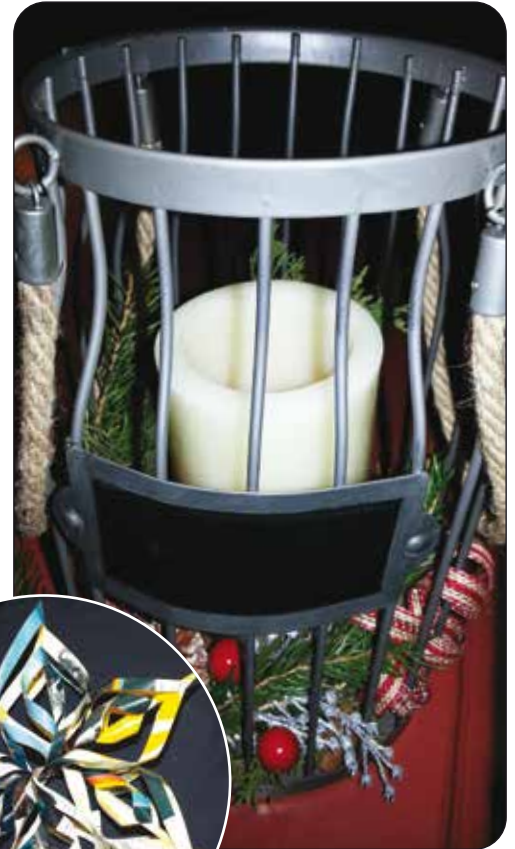
4. Socking Stuffers and Knick-Knacks, let's be practical please.

Does that candy filled tube of plastic look ever so charming in the stocking? Sure, but really how much waste is that? I know I've grown up when receiving socks over candy is exciting. Let us be honest about indulgences compared to useful gifts. I cannot tell you how many times I've received or bought presents and they've just taken up space. Worse even, they end up in the trash. My new alternatives have been making mason jars of my own candy/food mixes, buying tickets for experiences rather than stuff, or just getting things people actually need in daily life.

5. Regifting parties, sometimes it's better to give a little more!

It's actually a tradition here at PEEC that we have a regifting party after the holidays. It's pretty fun and a good avenue to gift away items that were not really the right fit for you. If that doesn't work, the local thrift store would be happy to accept items that need a new home.

So while you may be struggling with last minute holiday shopping trying to find that perfect something, take a moment to remember – is it worth the stress? I certainly am not someone who enjoys long lines at the stores, but maybe you are. If the holidays really fire up your yule log, then I challenge you to think a little greener in your epic preparations. If the holidays are stressing you out, then simply remember the less is more mentality. Personally, I'll be using my "shopping" time to probably sightsee some unique shops and enjoy the festive atmosphere more than worrying about trying to buy something for everybody. Instead, maybe a nice mason jar of soup mix as a gift will be what everybody gets from me this year. Happy Holidays to all!



Lichen: An Under-Appreciated Hero

Continued from front page

Without soil, producers can't grow, consumers can't eat, and there is nothing for the decomposers to turn into soil. It seems like an impossible situation to recover from. Enter the lichen. Lichen can do something that almost no other producer can do; it can grow on bare rock, and does not need to root itself in or get nutrients from soil. While it takes a long time, slowly dying lichen can form a thin soil layer on bare rock that plants can begin to root in, and the ecosystem cycle can begin in earnest.

Lichens are vital in areas that are recovering from disastrous disturbances. Without them, it would be much harder and slower for disturbed areas to begin the process of recovery. So next time you are out on a hike, take a moment to appreciate the lichen and its importance to our life on land.



The Christmas Bird Count

By Derek Scott

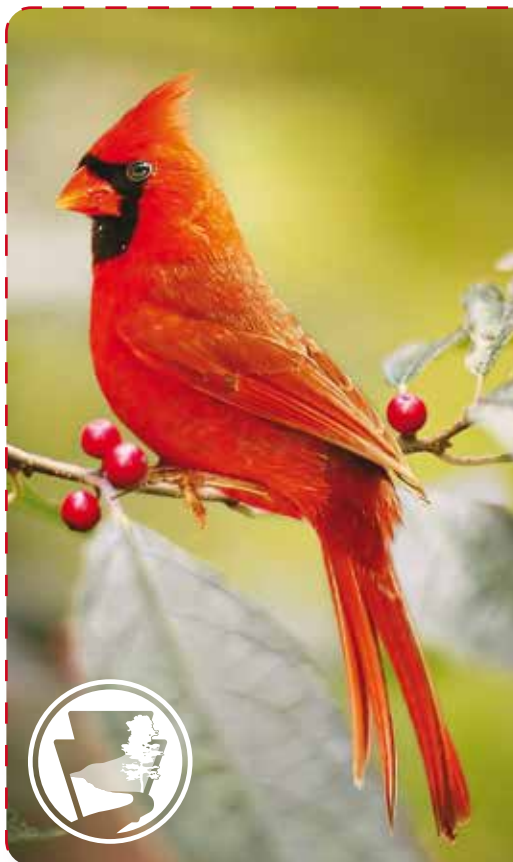
Since its inception in 1900, the Christmas Bird Count has taken place every year between December 14 and January 5. This annual event relies on interested community members to record bird population and species diversity in an attempt to track trends in the health of bird populations and help guide conservation efforts. Counts take place worldwide in designated 15 mile diameter "count circles" established by interested hosting parties. Last year alone, over 75,000 people participated, observing over 56 million birds!

PEEC's Involvement:

Since the early 90s, PEEC has actively participated in the Christmas Bird Count each season by hosting the Dingmans Ferry Count Circle. With the center of the count circle stationed at PEEC, our count covers a large majority of the Delaware Water Gap National Recreation Area. Each year, we have approximately 15 to 20 participants who census birds across the 14 sub-regions we've divided our count circle into. Some folks have been volunteering to cover the same area since we began! This past year was one of our most successful counts in recent memory. Twenty-one participants observed a total of 3,830 birds and 74 different species up from only 2,346 birds across 50 species the year before.

How to Participate:

Starting in October each year, PEEC opens registration for our count circle. While we try to give historical participants the same areas year after year, we always welcome new help for the count. Whether you're new to birding, or a seasoned expert, we'll work to set you up with your own zone or have you join up with a team that's already formed. Help us work to expand bird conservation efforts and make some friends along the way! The Dingmans Ferry count date for 2019 is Sunday, December 29. Interested individuals can contact PEEC by phone or email for maps of the count circle, datasheets, and information on where we're looking for assistance.



Suet Cake: Birds' Comfort Food

You will need:

Vegetable shortening, suet, or lard
Peanut butter
(chunky is best for extra nuttiness)
Raisins, dried berries
(cherries, cranberries)
Bird seed
(mixes or sunflower)

Oats
Cornmeal
Peanuts (unsalted)
Mealworms
Cookie sheet or containers to
freeze/store in

By:
Kirsten
Larick

Directions:

Let your imagination go wild with the combinations. Use everything for a smorgasbord or any combination or assortment of the ingredients listed.

You will want 1-part fat (lard/shortening/peanut butter) to 2-parts dry ingredients.

1. On a low setting, melt your fats.
2. Remove from heat.
3. Add dry ingredients, mix well.
4. Place, pour into containers &/or cookie sheet.
5. Spread and flatten.
6. Freeze.
7. If you use a cookie sheet, cut the suet into squares to store easily. If you use storage containers, leave the suet in them until needed.
8. Place outside in suet holders for the banquet to begin.

Save for later! ❧

Suet is a fast source of energy for birds. Generally, it is one of the most popular foods for birds in the winter and it contains ingredients that may be harder for them to find in the colder months. There are many suet cake varieties to choose from at the store from peanut to sunflower, but why not make it yourself? Some of the birds that you may see at your suet feeder are Woodpeckers, Chickadees, Nuthatches, Wrens, Tufted Titmice, Catbirds, Cardinals, Jays and countless more. Get your birding book ready.

WINTER PROGRAMS AND GETAWAYS 2020

PRE-REGISTRATION REQUIRED
Unless otherwise indicated.

TO REGISTER:

Call PEEC at 570-828-2319

JANUARY

Cross Country Skiing

Saturday, January 18th • 9am-12pm

Bridge the Gap: Free Admission

Saturday, January 25th • 9am-12pm

\$20 adult / \$10 child

Enjoy the winter woods with beginner ski lessons. Learn the basics of cross country skiing and practice on our campus. Skis, poles & boots provided - register w/shoe size to guarantee a spot. Mad Science will be an alternative program in the event of no snow only on January 18th date. **Lead support is provided by the William Penn Foundation.**

Intro to Snowshoeing

Sunday, January 19th • 10am-12pm

Bridge the Gap: Free Admission

Sunday, January 26th • 10am-12pm

\$10 adult/ \$5 child

Learn the basics of snowshoeing and enjoy a winter walk through the woods. No experience necessary – we provide the equipment and teach you everything you need to know. Register early to reserve a pair of snowshoes & guarantee a spot. Winter Ecology Hike will be an alternative program in the event of no snow only on January 19th date. **Lead support is provided by the William Penn Foundation.**

Eagle Watch

Sunday, January 19th • 9am-3pm

\$20

Join us on a trip north in search of eagles and other rare wintering birds. Visit the Mongaup Reservoir, the Delaware River, & the Delaware Highlands Conservancy to look for winter residents and nesting pairs. Bring a lunch, camera & warm clothes. *Call to reserve a seat in the van – Maximum of 18 spaces.*

PEEC into the Kitchen - New Program!

Saturday, January 25th • 1pm-3pm

\$10

PEEC in the Kitchen is a new cooking class series that will offer participants a peek into the PEEC Dining Hall's Kitchen for a fun and creative cooking experience with Chef Erin Taylor. Participants will learn basic kitchen skills, tips and tricks of the trade, and make easy, delicious, family friendly meals to satisfy the gourmet culinarian, pickiest eaters, or even strictest dietary concerns. Each class will include an informational hands-on cooking demonstration, recipes for participants to take with them, and a family style meal of the items prepared in class.

Mad Science - New Program!

Sunday, January 26th • 1pm-3pm

\$5

Put on your lab coats and prepare to conduct some crazy experiments! We'll get to create your very own slime, oobleck, and attempt to launch a rocket into space. All ages welcome.

FEBRUARY

Intro to Snowshoeing

Saturday, February 1st • 10am-12pm

Bridge the Gap: Free Admission

Saturday, February 8th, 22nd, & 29th

10am-12pm

\$10 Adult/ \$5 Child

Learn the basics of snowshoeing and enjoy a winter walk through the woods. No experience necessary – we provide the equipment and teach you everything you need to know. Register early to reserve a pair of snowshoes & guarantee a spot. Mad Science will be an alternative program in the event of no snow only on February 1st date. **Lead support is provided by the William Penn Foundation.**

Ecozone Discovery Room!

Saturday, February 1st • 1pm-4pm

\$2 per person

Climb into a bald eagle's nest, crawl into a bat cave, explore a beaver lodge, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment.

No registration required.

Cross Country Skiing

Sunday, February 2nd • 9am-12pm

Bridge the Gap: Free Admission

Sundays, February 9th & 23rd • 9am-12pm

\$20 adult / \$10 child

Enjoy the winter woods with beginner ski lessons. Learn the basics of cross country skiing and practice on our campus. Skis, poles & boots provided - register w/shoe size to guarantee a spot. Winter Ecology Hike will be an alternative program in the event of no snow only on February 2nd date. **Lead support is provided by the William Penn Foundation.**

Mad Science

Sunday, February 2nd • 1pm-3pm

\$5

Put on your lab coats and prepare to conduct some crazy experiments! We'll get to create your very own slime, oobleck, and attempt to launch a rocket into space. *All ages welcome.*

Eagle Watch

Saturday, February 8th • 9am-3pm

\$20

Join us on a trip north in search of eagles and other rare wintering birds. Visit the Mongaup Reservoir, the Delaware River, & the Delaware Highlands Conservancy to look for winter residents and nesting pairs. *Bring a lunch, camera & warm clothes. Call to reserve a seat in the van – Maximum of 18 spaces.*

DIY Birdfeeders

Sunday, February 9th • 1pm-3pm

\$5

Spend the morning putting together your own unique and custom bird feeder from a variety of recycled materials just in time for spring. *We'll provide everything you need, but you are welcome to bring your own supplies.*

President's Day Family Camp Weekend

President's Day Weekend: February 14th- 17th

Adults \$225 / 10% off ages 11-13/ 25% off

ages 7-10 / 50% off ages 4-6 /

Free ages 3 & under

Bring your friends and family to experience PEEC in the wintertime. Cross country skiing, animal tracking, nature hikes, campfire and more! Price includes three nights of lodging and meals from Friday dinner through Monday lunch. Join us for a wonderful winter weekend! *Commuter and day rates available – call for details.*

Ecozone Discovery Room!

February 18th – 21st

\$2 per person/

Free for any teacher with a school ID

1pm-4pm

Climb into a bald eagle's nest, crawl into a bat cave, explore a beaver lodge, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. *No registration required.*

Vegan Board Game Dinner

Saturday, February 22nd

\$25/ \$15 for children 10 and under

5pm Games Start 6pm Dinner Served

PEEC is pleased to announce our 2nd annual Vegan Board Game Dinner! Play board games and unleash your competitive spirit as you enjoy a fantastic meal with all plant-based ingredients. Not a vegan? Not a problem! Start the New Year off right with healthy, fresh, scratch-made, mouthwatering deliciousness! Bring the whole family for a fun and exciting evening. *Payment required at registration. Call early to reserve your seats.*

Ecozone Discovery Room!

Sunday, February 23rd • 1pm-4pm

\$2 per person

Climb into a bald eagle's nest, crawl into a bat cave, explore a beaver lodge, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. *No registration required.*

Winter Ecology Hike

Saturday, February 29th • 1pm-3pm

\$5

Learn how different plants and animals survive the winter. Join us on a hike and experience PEEC in the wintertime. *All ages welcome.*



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EAGLE WATCH

\$20 PER PERSON

SUNDAY | JANUARY 19TH | 9AM-3PM



PEEC
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JANUARY 25TH | 1PM-3PM

PEEC INTO THE KITCHEN

\$10 PER PERSON



PEEC
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Mad Science

JANUARY 26TH | 1PM-3PM

\$5 PER PERSON

Put on your lab coats and prepare to conduct some crazy experiments! We'll get to create your very own slime, oobleck, and attempt to launch a rocket into space. All ages welcome.



PEEC
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Vegan "GAME" DINNER

FEBRUARY 22ND | 5PM-8PM

WHERE'S THE BEETS

\$25 PER PERSON **\$15 FOR CHILDREN 10 & UNDER**

