The Lion Ledger

Winter 2026

Wonderfully Winter Cover Art by Natale Hall, 3rd year BMS PhD Candidate

Note from the Editors:

Snow, ice, and wind, oh my! The freezing temperatures and forecasted blizzards can only mean one thing: it's time for the Winter Edition of the Lion Ledger! Whether you're braving the icy tundra or firmly in hibernation mode, we've got plenty to keep you entertained this season. This edition is packed with science you can *feel*, from Paige's piece on why static shocks seem unavoidable in the winter, to Allison's article on what's really going on with those painfully dry hands. Habiba then describes a fascinating discovery in the world of bees that's sure to have you buzzing with excitement! If you're looking for ways to stay engaged and informed during these colder months, Chris breaks down some key developments in geopolitics, while Ikram shares details about PILL's ongoing food drive and offers encouragement to get involved and offer a helping hand. To keep things cozy, Natale, Habiba, and Paige are serving up winter-friendly recipes, while Julia gives some ideas for getting outside and enjoying local winter hikes – layers encouraged. Have an idea for a future Lion Ledger piece? Be sure to reach out to us at lionstalkscience@gmail.com and we'll be happy to include it in the next (Spring) Edition!

Featured Articles

This Season in Science

Winter Shock: Why Static is Worse in the Winter

By: Paige Bond

As if winter wasn't hard enough with shorter days and colder temperatures, it also comes with an increased chance of getting zapped by everyday objects. That shock when you touch a doorknob, along with your hair standing up straight and clothes clinging to you, is caused by static electricity. These annoying (and sometimes painful) surprises tend to happen more often in winter and result from multiple concurrent mechanisms that create static electricity, or static charges, in everyday objects: electron transfer, ion transfer, and material transfer (Figure 1).

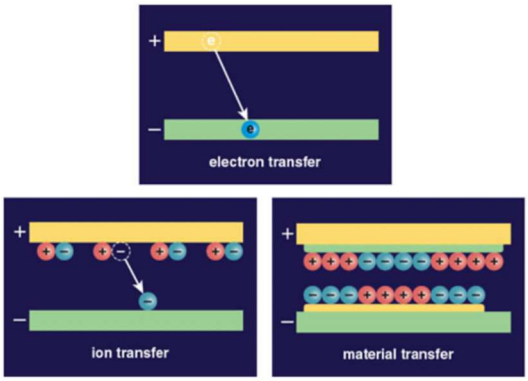


Figure 1. Different mechanisms for static charges.

Mechanisms of static charge

All materials are composed of atoms, with a positively charged nucleus and a negative electron cloud. When an atom gains more electrons, it becomes a negative anion. Alternatively, if an atom loses electrons, it becomes a positive cation. These states are not fixed, as electrons, specifically valence electrons that are farthest from the nucleus of an atom, can be quite mobile. Metals are a unique example of this because they can be thought of as fixed cations with free-flowing electrons (Figure 2).

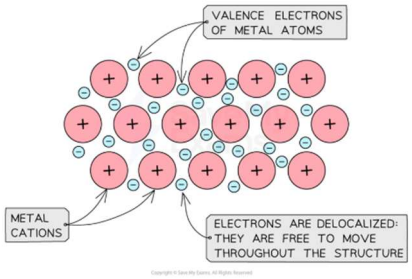


Figure 2. Example of a metal with free-flowing electrons.

The presence of these free-flowing electrons in metals makes them great conductors of electricity and forms the basis of the electron transfer model, the dominant explanation for static electricity. In the electron transfer model, static charges are caused when free-flowing electrons move from one object to another after contact, causing one object to have a positive charge and the other to become negatively charged. Then, when these objects encounter one another, the charges want to diffuse, resulting in the flow of negative charge towards the positive, creating static charges. For example, when you walk across carpet, you gain electrons that make you negatively charged. If you touch a metal doorknob, the imbalance of charge will cause electrons to jump from your hand to the metal, resulting in a painful shock. The ion transfer mechanism is similar to the electron transfer mechanism, except instead of objects exchanging just electrons, the charge differential is due to the accumulation of whole ions on one object versus another. The last and newest mechanism proposed for static charges is material transfer, which states that microscopic amounts of material, along with entire ions and, of course, electrons, are transferred between two objects and are responsible for the difference in charge. All three mechanisms can occur simultaneously and involve a charge differential between two objects that, when possible, causes the negative charge to diffuse from one to another.

Why is static electricity worse in the winter?

When considering how many electrons are always flowing around us, it's a wonder that we don't encounter static charges more often. However, that is because we are surrounded by an insulator, the very air we breathe. An insulator is the opposite of a conductor: it is any substance that reduces or prevents electric current (Figure 3). Air consists of many molecules that flow freely and rarely encounter each other. Reduced contact means fewer opportunities for charges, or electrons, to flow. This can be mitigated slightly by increased humidity, as water readily allows charge to flow. In the winter, however, the air is usually dryer, preventing electrons from flowing as easily and causing more buildup of charges. This phenomenon, in addition to common winter clothing like wool and polyester which holds charge more readily, causes more static charges in the winter compared to the summer. As a result, in the winter you may notice your hand is zapped more

frequently, or your hair seems to defy gravity frustratingly often! To help mitigate static charges, utilizing a humidifier can increase relative humidity and prevent charge buildup.

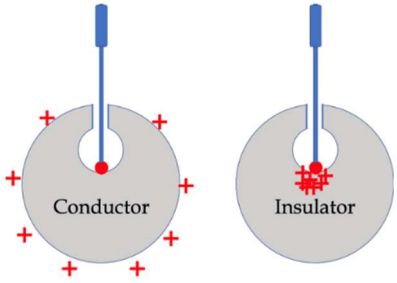


Figure 3. Movement of charges in conductors (metals, water) versus insulators (dry air).

In summary, static charges occur when there is a buildup of charge that is not readily released. There are three mechanisms by which this charge is created: electron transfer, ion transfer, and material transfer. Charge buildup is more likely to occur in the winter because the dry air acts as an insulator, reducing the flow of electrons. Therefore, the sense of electricity in the air surrounding the winter holidays isn't all in your head — winter truly does have the ability to shock you!

Why Winter Weather Wreaks Havoc on Your Hands

By: Allison Krebs

Every winter, our hands seem to suffer first. Skin that once felt supple and smooth to the touch can suddenly become irritated overnight. Knuckles split, cuticles revolt, and dryness can feel like a personal attack that not even your favorite hand lotion can remedy. In reality, this discomfort is the result of a seasonal breakdown of your skin's protective barrier, and understanding the science behind it can help you protect your hands throughout even the harshest months of the year.

Your skin's seasonal stress test

The outermost layer of the skin, known as the stratum corneum, acts as the body's primary protective barrier, which limits water loss while blocking potential irritants and pathogens from entering the skin (Figure 1A). This barrier is a highly organized structure consisting of flattened epidermal (skin) cells embedded in a lipid matrix composed primarily of ceramides, cholesterol, and free fatty acids (Figure 1B). Epidermal cells function as the 'bricks' of the stratum corneum, while lipids act like specialized 'mortar' to hold the structure together. Ceramides help lock in moisture by holding skin cells together and preventing water loss. Cholesterol stabilizes the skin barrier by supporting lipid organization and repair. Finally, fatty acids maintain flexibility to allow the skin to bend without becoming brittle.

During the colder months, maintaining the 'seal' of this outermost barrier becomes a challenge. Cold air naturally holds less moisture, and heating systems strip humidity from our indoor environment too. Together, these dry conditions increase transepidermal water loss (TEWL). Simply put, water evaporates from our skin faster than it can be replaced. This increased TEWL gradually weakens the stratum corneum's barrier function and sets the stage for dry, cracked hands.

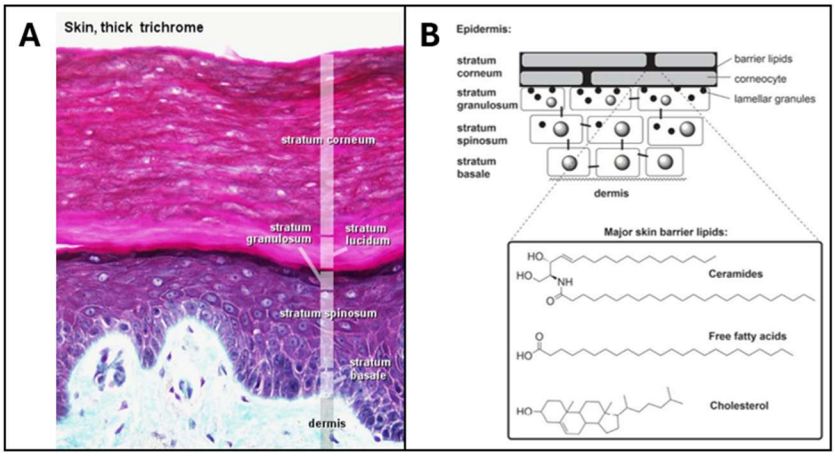


Figure 1: Skin Histology and Epidermal Organization. A) Representative histological section of skin. B) Schematic illustration of epidermal layers, highlighting organization of the stratum corneum.

Why hands take the first hit

Hands are one of the first places we feel the drying effects of winter for a few reasons. Compared to other areas of our bodies, our hands contain fewer sebaceous (oil) glands, meaning there is less natural oil to assist in reinforcing the skin barrier and slow water loss. Additionally, more so than other parts of our bodies that stay bundled up in various layers, our hands are constantly exposed to environmental stressors this time of year, including cold outdoor air, dry indoor heat, and the friction of frequently putting on and removing gloves. Winter also comes

with its own unique challenges, particularly during cold and flu season, when handwashing and sanitizing increase dramatically. While this is essential for infection control, repeating handwashing strips our hands of the barrier lipids that help hold the stratum corneum together. Without sufficient time for repair, this repeated disruption leads to tiny breaks in our skin's surface. These microfissures allow moisture to escape more readily and create entry points for irritants to penetrate deeper into the skin.

Not all moisturizers are created equal

Many of us respond to our dry, cracked hands by reaching for lotion. Frustratingly, the benefit this offers is often short-lived. Although many moisturizers attempt to add hydration back to the skin – which can result in temporary softness – without proper repair to the damaged skin barrier, this moisture quickly evaporates, leaving our skin feeling dry again quicker than we'd like. As a result, when choosing a winter hand moisturizer, it helps to look for formulas that support your skin barrier in addition to simply providing hydration. Ingredients like glycerin and hyaluronic acid help draw water into the skin; ceramides and fatty acids help rebuild the lipid barrier; and occlusives, such as petrolatum and shea butter, help seal moisture in to reduce ongoing water loss. The most effective moisturizers contain a combination of these key components, working together to restore the stratum corneum and protect it from further damage.

Dry hands in the wintertime are a symptom of the seasonal struggle your skin goes through. While harsh weather and the repeated mechanical stress it brings can take a toll on the protective stratum corneum, supporting that barrier with the right ingredients can make a meaningful difference in keeping your hands soft and comfortable throughout the winter. This season, remember to give your stratum corneum a helping hand!

Science in the News

To Bee or Not to Bee: A 150-Million-Year-Old Genetic Identity Crisis

By: Habiba Abdelhalim

How is it decided whether an organism becomes male or female? In humans, many people know the basics: having two X chromosomes usually indicates that person is female, while having one X chromosome and one Y chromosome typically means that individual is male. But in a group of insects called hymenoptera, which includes bees and ants, the story is far stranger, and much more interesting. A recent study explores how sex is determined in bees and ants and reveals that an ancient genetic switch has been quietly running the show for over 150 million years.

First, let's talk about sex determination in bees. Bees use a system called haplodiploidy, in which, generally speaking, females have two copies of each chromosome (diploid), while males have only one copy (haploid). But chromosome copy number alone doesn't fully determine the sex of the insect. In most bee species, sex is controlled by a special genetic region called a complementary sex determination (CSD) locus. If a developing bee has two different versions of this locus, it becomes female. If it has only one version it becomes male.

This system has a side effect: sometimes, a bee will have two identical copies of the same CSD locus, and these bees end up as diploid males. These insects are genetically female, with two chromosome sets, but biologically male, meaning they have male genitalia, though it is usually underdeveloped. Diploid males are usually sterile, or unable to reproduce, which makes them an evolutionary problem. Nature tries to avoid this by keeping many different versions of the CSD gene in the population, reducing the chance that two matching copies come together.

The researchers of this study focused on the red mason bee, *Osmia bicornis*. By carefully examining hundreds of *Osmia bicornis* nests, they identified rare diploid males and compared their DNA to that of normal females. This comparison allowed them to pinpoint the exact region within the CSD responsible for sex determination: a stretch of DNA only about 2,000 base pairs long – tiny, by genomic standards!

Even more surprising was what this region of DNA contained. Instead of a

typical protein-coding gene, the key player was a long noncoding RNA called ANTSR. Noncoding RNAs don't make proteins; instead, they regulate how other genes are used. The researchers found that diploid male bees were always homozygous (two identical copies) at the ANTSR region, while females were almost always heterozygous (two different copies). This perfectly matches how complementary sex determination is supposed to work. On top of that, this region showed extraordinarily high genetic diversity, exactly what you would expect from a gene under strong evolutionary pressure to avoid matches.

To see whether this mechanism was unique to *Osmia bicornis* or applied to different insects, the authors looked across many other bees and ant species. They discovered that ANTSR (or nearby DNA regions) also showed unusually high diversity in multiple species of bees and ants. The big exception was the honeybee, which uses a completely different and more recently evolved sex-determining gene. This contrast strengthens the idea that ANTSR is the ancestral sex switch for bees and ants.

The most mind-blowing conclusion is evolutionary: bees and ants split from a common ancestor around 153 million years ago, yet they still appear to rely on the same genetic switch to decide sex. That makes ANTSR one of the oldest known sex-determination systems still in use today. In other words, this tiny piece of RNA has been quietly deciding which bee is a queen, a worker, or a drone for millions of years, longer than the human species has been on Earth!

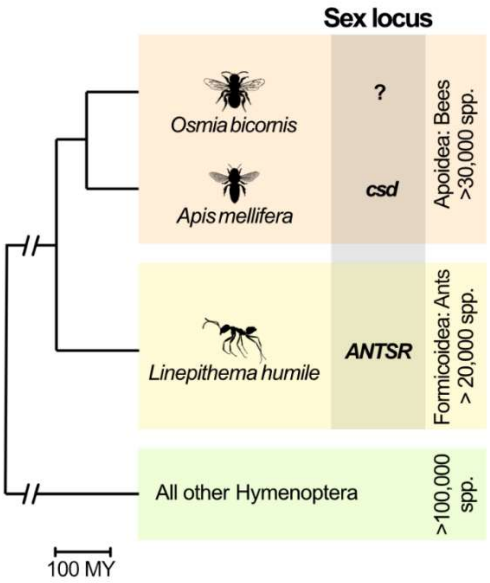


Figure 1. Most bees and ants determine sex using a system called single-locus complementary sex determination (CSD). So far, scientists have identified the exact genetic region responsible for this process in only two species: the honeybee (*Apis mellifera*) and the invasive Argentine ant (*Linepithema humile*). The evolutionary tree shows how these species are related to *Osmia bicornis*, which is the focus of the study. Adapted from Rönneburg et al.

Get Involved

Global Politics for Scientists: Climate Change & the Conflict in Sudan

By: Chris Pallés

This article forms the second installment of my *Global Politics for Scientists* series. It's hard to keep up with the onslaught of news, so hopefully this series can help you make sense of current events. The conflict in Sudan, referred to by some as the first "climate conflict," may seem quite complicated at first, but control of oil and the effects of climate change form the backbone here.

In 1989, in the middle of the second Sudanese civil war, a coup successfully promoted Omar al-Bashir to President. He continued governing Sudan during the next 14 years, until 2003 brought the Darfur war – named for a region in Sudan. This conflict was later labeled by the International Criminal Court as a genocide targeting non-Arabs. Many felt this was a direct result from al-Bashir's enforcement of strict Islam and persecution of religious minorities. After continued unrest, al-Bashir finally permitted the secession and creation of the Republic of South Sudan in 2011, primarily due to religious conflicts and the desire by minority groups for self-determination, although this did not include the Darfur region. Despite this compromise, conflict ensued over citizenship, borders, and oil revenues. South Sudan, whose population was primarily composed of religious and ethnic minority groups, was notably less developed, likely due to the history of discrimination and persecution. Starvation was, and still is, rampant in South Sudan because of expanding droughts and desertification that many believe is directly caused by climate change.

In 2013, the Rapid Support Forces (RSF) formed. While officially under al-Bashir, they originated from Janjaweed militia that fought rebels in Darfur. This militia formed part of the group previously accused of genocide and ethnic cleansing against non-Arab, black Africans in 2003. In 2019, the Sudanese Armed Forces (SAF) and the paramilitary RSF group joined together to oust al-Bashir and establish a joint civilian-military democracy. However, a strong dislike

of new civilian Prime Minister Hamdok by the SAF and RSF led to the end of the military-civilian government. Yet another coup occurred in October 2021, led by General Abdel Fattah al-Burhan of the SAF and General Mohamed Hamdan Dagalo (aka Hemedti) of the RSF. Although General al-Burhan and General Dagalo agreed on changing the governing system, they soon disagreed on how to move forward. Conflict continued into 2022 over disagreements in how to transition to democracy and many felt—and still feel, that leaders were not being held accountable for the violence perpetrated, resulting in even more violence against protestors. Then, in April 2023, the RSF was redeployed by General Dagalo around the country, which General al-Burhan viewed as a threat. This tension led to the exchange of shots fired, though nobody knows who shot first. Both sides have been engaged in conflict ever since.

In recent months, different organizations have condemned leaders for war crimes, but the consequences of famine persist, affecting at least 67% of Sudanese residents. As of 2024, 64% of Sudanese people worked in agriculture or pastoral occupations and are directly impacted by desertification, contributing even more to the severe level of starvation. Some 21 million people are estimated to be experiencing "acute food insecurity," according to the United Nations – a clear effect of worsening climate crises and spreading conflict. The United Nations declared this "the largest humanitarian emergency in the world," with a near-collapse of humanitarian efforts due to depleted supplies and lack of safety for aid convoys. Please explore these links, if you can, to learn about ways to help Sudanese relief efforts – and remember, even just staying informed and talking about current events helps raise awareness of issues like these.

- International Rescue Committee
- UNICEF
- World Food Program

Solidarity in Action – The PILL Food Drive

By: Ikram Mezghani

In November, as a looming U.S. government shutdown threatened to disrupt essential services, uncertainty spread across the country, particularly among families who rely on federal assistance programs such as the Supplemental Nutrition Assistance Program (SNAP). For many, SNAP is not a supplement but a necessity, and the possibility of disrupted benefits raised serious concerns about food access during an already difficult time.

Recognizing this urgency, Dr. Esma Yerlikaya, Vice President of the Pharmaceutical Industry Lion Leaders (PILL), helped turn concern into action by mobilized fellow students and campus organizations through PILL to collect shelf-stable food items that could be distributed quickly. Rather than waiting for political outcomes, the initiative, rooted in collective responsibility, aimed to provide immediate, tangible support for those in need. While the government debated federal spending priorities and failed to reach a budget agreement, the effects were felt locally. The threat to SNAP benefits revealed how policy decisions made far from everyday life can directly impact whether families are able to meet their most basic needs, such as having food on the table.

The PILL Food Drive is an accessible and community-oriented initiative, encouraging students to participate in a meaningful way even amid busy academic schedules. The first donation, which amounted to 70 pounds of food, was successfully delivered to the Harrisburg Area Food Pantry (HAFP), an organization that serves individuals and families experiencing food insecurity throughout the greater Harrisburg area and is one of the few pantries in Dauphin County that offers food at least five days a week, ensuring reliable access for those facing food insecurity.

While the food drive addressed an immediate need close to home, it was also informed by a broader ethical awareness. The same political systems that place domestic safety nets at risk operate within a global landscape marked by many profound humanitarian crises. During the same period that SNAP benefits were under threat in the United States, Gaza's genocide continued, where access to food, healthcare, and basic necessities was forcibly cut off by Israeli military actions carried out with U.S. funding and political support. It is important to recognize the shared moral reality here: political decisions—whether domestic or international—often have the greatest consequences for civilians. What unfolds abroad does not remain distant; the same systems that enable deprivation elsewhere also shape vulnerability here at home. In different ways and at different scales,

vulnerable populations bear the cost of prolonged political inaction and power struggles. For many students, including those involved in the food drive, this connection reinforces the importance of acting where one can, even when broader systems feel overwhelming.

The PILL food drive initiative shows how student leadership can be grounded in empathy and action. It demonstrates how campus organizations can respond thoughtfully to current events while remaining focused on service. By addressing food insecurity locally, the drive also encouraged students to think critically about policy, social responsibility, and the role of community engagement. From Harrisburg to Gaza, the need for solidarity and support is clear.

Students and community members who wish to support this year-round effort can contribute by dropping off non-perishable food items in the PILL Food Drive bins on campus in the following locations:

- 3rd floor, two locations: in front of the College of Medicine elevators and next to room C3830
- 4th floor, one location: next to the College of Medicine elevators
- 5th floor, one location: in the breakroom C5754

Monetary donations can also be made directly through the HAFP website at hfoodpantry.org, or by scanning the QR code on the flyer. Let us all work together as a community to ensure that families in need have consistent access to food and essential supplies. Every contribution, big or small, helps strengthen our community and provides tangible support to those facing food insecurity.

Winter Recipes

Vegetarian Tikka Masala

By: Natale Hall

Now that the holiday festivities are behind us and we're deep in another gloomy, frigid Pennsylvania winter, I find myself craving healthy comfort meals I can make in big batches so I don't have to cook as often. This self-created tikka masala recipe, inspired by a dish I tried at the Lititz Springs Inn last summer, checks all the boxes: warm, deeply flavorful, and packed with tons of vegetables. It's completely vegetarian (and vegan if

you skip the naan!), hearty enough to be satisfying, and perfect for meal prep or cozy nights in.

Image Credits: Natale Hall

Ingredients:

- ¼ cup olive oil
- 1 yellow onion, diced
- 1 red bell pepper, diced
- 4 cloves garlic, minced
- 1 large eggplant, cubed
- 1 head cauliflower, cut into small florets
- 8 ounces diced white or baby bella mushrooms
- 2 15-ounce cans of chickpeas
- 2 tbsp turmeric
- 2 tbsp garam masala
- 2 tbsp chili powder
- 1 tbsp cumin
- 1 tbsp ginger (powder or grated)
- 3 tbsp tomato paste
- 1 15-ounce can crushed fire roasted tomatoes
- 1- 1 ½ cups vegetable stock
- 1 - 1 ½ cups coconut milk or cream
- 2 tbsp chopped cilantro
- Salt and pepper to taste
- Rice, for serving
- Pita or naan bread, for serving

Instructions:

1. Heat olive oil in a large pot over medium heat.
2. Once shimmering, add onion and red bell pepper and cook until soft.
3. Add garlic and cook until fragrant.
4. Add eggplant, cauliflower, and mushrooms, adding extra oil if needed (these vegetables tend to absorb oil as they cook). Cook for around 5 minutes uncovered, stirring frequently, then cover and cook for 10 minutes or until vegetables have softened, stirring occasionally.
5. Add chickpeas, stir, and push all veggies to the sides of the pot to create a hole in the center.
6. To the hole, add turmeric, garam masala, chili powder, and cumin and toast for 30 seconds to 1 minute until fragrant, then add ginger and mix in the vegetables.
7. Add tomato paste, crushed tomatoes, and vegetable stock, and simmer for 10-15 minutes on medium-high heat, stirring frequently, until chickpeas are softened.
8. Stir in coconut cream and simmer for an extra minute or so until the sauce is combined and has a vibrant orange color.
9. Remove from heat, add in cilantro and stir to combine.
10. Serve over rice and/or with toasted pita/ naan.

Apple Donut Bundt Cake

By: Habiba Abdelhalim

As a new baker, I'm always on the lookout for simple recipes—bonus points if they make the house smell amazing. This apple donut bundt cake checks all the boxes: it's incredibly easy to make and just as delicious. Perfect for when you're craving a cozy, comforting treat, this cake pairs beautifully with a salted caramel latte for maximum flavor.

Image Credits: cakebycourtney

Ingredients (Bundt Cake):

- 3 cups all-purpose flour
- 2 tsp cinnamon
- ¼ tsp nutmeg
- 1 tsp salt
- 1½ tbsp baking powder
- 1½ cups granulated sugar
- ½ cup brown sugar
- 1 cup vegetable oil
- 3 eggs, room temperature
- 1 cup unsweetened applesauce
- 1 tsp vanilla extract (can be substituted with powder vanilla)

Cinnamon Sugar Coating:

- ¼ cup unsalted butter, melted
- ¼ cup granulated sugar
- 2 tsp cinnamon

Instructions:

1. Preheat oven to 325°. Grease and flour a bundt pan.
2. In a medium bowl, whisk together flour, cinnamon, nutmeg, salt, and baking powder.
3. In a large bowl, mix granulated sugar, brown sugar, and oil until combined.
4. Add eggs and beat for 2 minutes.
5. Add applesauce and vanilla; mix well.
6. Alternate adding dry ingredients and the wet ingredients, starting and ending with dry ingredients.

Mix until just combined. Batter will be thin.
7. Pour batter into prepared pan and bake for 50 minutes, until a toothpick comes out with moist crumbs.
8. Cool in pan for 1 hour, then invert onto a plate or rack.
9. Brush cake with melted butter.
10. Mix sugar and cinnamon, then sprinkle and pat onto top and sides of cake.

Easy Fudge Pie

By: Paige Bond

Move over fall pumpkin pie, it's time for this winter pie to shine. Easy to make and crust optional, fudge pie is the perfect dessert for chocolate lovers. There are quite a few variations of the fudge pie out there, but this recipe is my tried-and-true favorite. When making fudge pie, keep in mind that it will not rise much when baking. The batter will cover the bottom of a 9" pie pan. For best results, avoid using a deep-dish pan for this dish. Also, a sprinkle of powdered sugar on top of the pie hides any imperfections, making this pie impossible to ruin. Fudge pie is best served with whipped cream or vanilla ice cream to balance out the richness of the pie.

Image Credits: crazy for crust

Ingredients:

- ¼ cup of flour
- 1 cup of sugar
- 3 tablespoons cocoa powder
- ¼ cup butter
- 2 whole eggs
- 1 tsp vanilla
- 1 unbaked pie shell (optional)
- Powdered sugar (optional)

Instructions:

1. Preheat oven to 325^0 F.
2. Mix flour, sugar, and cocoa together in a large bowl.
3. Stir in melted butter, eggs, and vanilla.
4. Mix with a spoon until all ingredients are well incorporated.
5. Pour into a pie shell or well-greased 9" pie plate.
6. Bake for 30-40 minutes.
7. Sprinkle the finished pie with powdered sugar.

Reviews & Recommendations

Cool Winter Hikes Near Hershey

By: Julia Simpson

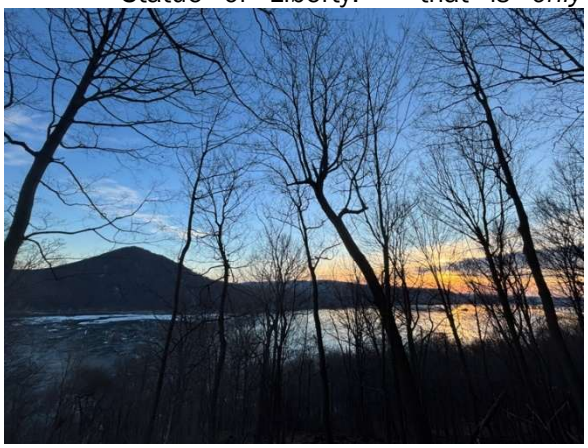
Are you an outdoors-enthusiast in mourning for the leaf-lush, fern-lined hiking trails of summer? I'm right there with you, but would also like to offer a salve: hiking can be just as fun in the winter, and some trails actually have *more* to offer in the colder months, to those bold enough to brave the frost! Below are four local hiking options that I feel offer something special in the winter.

Importantly, hiking in the winter comes with additional safety requirements: be sure to dress warmly, always bring an extra layer, check the weather before you go (don't want to be caught in an unexpected storm!), wear shoes with good tread/grip, always plan your route and have a map (physical or electronic, ideally both!), let a friend know your plans ahead of time, and bring snacks! Also, bring water, *and* backup water: it's easy to remember to hydrate in the summer when you're under a sweltering sun, but it can be just as easy to forget to do so in winter conditions.

With that out of the way – stay safe, and happy hiking!

Cove Mountain Preserve / Hamer Woodlands – Pink, Blue, Green, and Yellow Trails Loop

A mere 26-minute drive from the College of Medicine and just across the Susquehanna River, this trail is my favorite recently-discovered local hidden hiking gem. A 2.5-mile loop that meanders through a beautiful forest with moderate elevation gain as you traverse Cove Mountain, its major appeal is the view of the river – and, at one point, the Harrisburg Statue of Liberty! – that is *only* present when the trees are bare.



Swatara State Park – Bordner's Cabin Trail

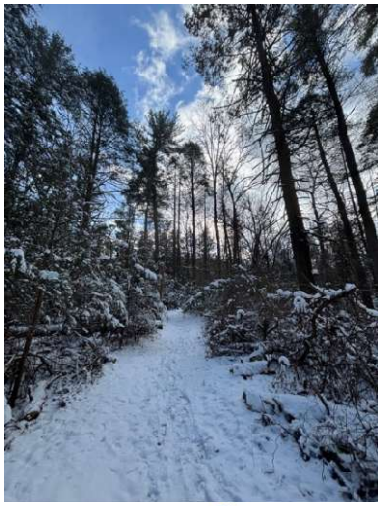
This 3.1-mile out-and-back trail at Swatara State Park has much to offer in all seasons, but has something special in the winter, particularly after a light snowfall. The mostly-flat trail crosses a long, lovely wooden bridge over a wide creek before proceeding alongside the creek on a pine-lined path towards Bordner's Cabin, where you can find some local history, a covered picnic table, and – if conditions are right! – a small waterfall.

Memorial Lake State Park – Memorial Lake Loop

New to hiking? Try this 2.2-mile nature walk! This trail is part wide-gravel-path, part road, but all lovely – it takes visitors around Memorial Lake, through smatterings of trees, across a long bridge over a dam, and by neighboring country estates, offering views of the forest, the lake, and mountain ridges. I most recently did this loop as a sunrise hike and was able to take in the sight of a gold-hued winter sun cresting over the half-frozen lake – gorgeous!

Caledonia State Park – Ramble Trail

If it's recently snowed and you're up for a slightly longer drive, you'll be richly rewarded with the Narnia-like wonder of this beautiful 2.1-mile creekside trail. Caledonia has wide variety of trails to explore, including longer and tougher hikes than this, but if you're looking for a stunning, easy-to-navigate hike in light snow, this is the trail for you. Afterwards, I recommend grabbing a bite in nearby Gettysburg, or a coffee at Caledonia Café!



Thank you for reading the Winter 2026 Edition of the Lion Ledger! If you have something you'd like to contribute to the next edition, email us at lionstalkscience@gmail.com

- The LTS Team: Julia, Paige, Jay, Natale, Sarah, Zoe & Jenny