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## Are schools ensuring adequate medical safety for their students?

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## DID YOU KNOW?

# How are **BLACK HOLES** detected

As black holes don't emit or reflect light, they are rendered invisible to telescopes. However, that doesn't stop scientists from studying them. To do so, they detect and analyse black holes based on how its presence affects their surroundings.

They can be surrounded by rings of gas and dust, called accretion disks, that emit light across many wavelengths, including X-rays. Additionally, a supermassive black hole's intense gravity can cause stars to orbit around it in a particular way. Astronomers tracked the orbits of several stars near the centre of the Milky Way to prove it houses a supermassive black hole, a discovery that won the 2020 Nobel Prize.

When very massive objects accelerate through space, they create

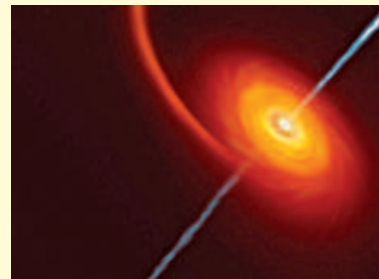


PHOTO: REUTERS

ripples in the fabric of space-time called gravitational waves. Scientists can detect some of these by the ripples' effect on detectors. Naturally, black holes can also bend and distort light from more distant objects. This effect, called gravitational lensing, can be used to find isolated black holes that are otherwise invisible.

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# Another 104 days of summer vacation

Phineas and Ferb returns after ten years—still chaotic, still super fun

When Disney's hit animated series, *Phineas and Ferb*, wrapped up its original run in 2015, it felt like the end of an era. Four seasons, over 130 wildly imaginative episodes, and countless adventures made us wish that our summer vacations were just as exciting while our pet led a double life as a secret agent.

Fast forward to 2023, and Disney decided to gift fans with the ultimate blast from the past—not one, but two brand-new seasons of *Phineas and Ferb* totaling 40 fresh episodes.

The first season landed on June 5 this year, and I binged them all the moment they dropped. Safe to say, *Phineas and Ferb* hasn't lost its spark. It's just as fun, chaotic, and whimsical as it was the first time around.

For starters, the new season retains the show's signature art style—a relief for old fans of the show who feared that the revival might opt for a smooth, rounded, and high saturation art style, something you often see in CGI reboots or spin-offs.

The original cast has also returned to reprise their iconic roles, with the notable exception of Thomas Brodie-Sangster—the voice behind the ever-silent yet brilliant Ferb. According to various US news outlets, scheduling conflicts kept him from joining the revival.

The theme song's back too—almost exactly the same, with one cheeky twist. For the first few episodes of season five, it kicks off with "There's another hundred and four days of summer vacation..." A tiny change, but a clever wink to fans saying the gang's back, and summer's far from over.

Once you jump into the episodes, it's also clear the show didn't tinker with the things that made it what it is today. The classic formula is still alive and kicking—Phineas and Ferb are back to pulling off the impossible with wild, creative inventions. Candace is also still on her eternal quest to bust them, and Dr Doofenshmirtz continues to be up to no good with Perry the Platypus ready to save the day. Same chaos, same charm, all summer long.

Naturally, with new episodes came brand-new adventures—and Phineas and Ferb delivered in true over-the-top



fashion. They weren't just building; they were building big, from submarine sandwich submarines (at least that's what the boys called them) to full-blown pet washes. Perry was back in action too, taking down Doofenshmirtz's latest batch of wildly ridiculous (and gloriously ineffective) evil schemes.

Every character got their time to shine throughout the new season, stealing the spotlight in their own quirky way. And let's not forget the music; each episode came with its own catchy soundtrack. You also had some of the more classic *Phineas and Ferb* music being played every once in a while. So sure, the old-school nostalgia is still there, but these new episodes proudly march to the beat of their own, very funky drum.

Now, being a revival, the new season had a few callbacks to the original run. Once again, the showrunners definitely tried using the nostalgia factor to appeal to the original fans, and it did work. But that doesn't mean that as standalone episodes, especially for a newer audience and generation, the revival leaves nothing to enjoy. The show remains just as exciting as it was when the first episode had dropped almost two decades ago.

The *Phineas and Ferb* revival strikes the perfect balance between nostalgia and fresh fun. Whether you're a longtime fan or a newcomer, the new episodes prove the magic's still there with the show still as quirky, clever, and unapologetically weird as it ever was.

# How to approach your ECAS EFFECTIVELY

**MAHPARA FAATIN**

When applying to American universities, what you do outside of the classroom holds considerable weight in your application. Extracurricular activities (ECAs) can take the form of hobbies, sports, community service, and participating in various competitions.

In this article, we explore how to best pick the most impactful activities and how to present them effectively in your application.

## Picking the right activity

Very often, you see students realise their lack of ECAs and scramble to seize every opportunity they come across, without realising it may actually be counterproductive. The most important factor to consider when choosing ECAs is their level of recognition.

As a rule of thumb, prioritise doing international-level competitions, summer courses, and internships over national-level ones. Of course, while inter-school and intra-school competitions hold relatively less weight, they are still a great way to get some practice and experience.

Next, consider the impact of an activity. For instance, it is better to be the founder of a high school club or a non-profit than to simply be a member of one, as the former showcases leadership and the drive to take initiatives of your own.

Very often, you see students realise their lack of ECAs and scramble to seize every opportunity they come across, without realising it may actually be counterproductive.

Also, instead of participating in multiple small-scale projects, focus on one that makes a significant impact. For example, organising disaster relief for over a hundred people is a very impactful initiative.

One thing to keep in mind is not to engage in an ECA solely for the sake of applying abroad. Admissions officers can easily see through last-minute additions,

especially if you pick up an ECA a year before applying. Showing long-term dedication to something you're passionate about, such as music or research, helps your case much more.

While US colleges don't require you to commit to a certain major when applying, having some relevant experience in your intended field helps you stand out from a pool of well-qualified individuals. So, for example, if you're applying for a Computer Science programme, strong performances in national robotics competitions or advanced programming projects or contests will strengthen your application.

## Quality over quantity

What most people seem to agree on is that a "spiked" profile is much more desirable than a "well-rounded" one. That means, instead of being a jack of all trades, it's better to master one.

Especially, in the context of students in their final two years of high school, when time is running out and academic pressure keeps piling up, it is extremely important to prioritise one activity that you can present as your "hook".

That is not to say that you shouldn't diversify your portfolio. However, commit most of your energy and time to excelling in one specific area.

## The art of presenting your ECAs

Most US colleges use an app called the Common Application, or the Common App, to receive undergraduate applications. Unlike the UK's personal statement, the Common App personal essay focuses on your personality and ambitions. Therefore, the only places you can brag about your ECAs are the "Honors" and the "Activities" sections of your applications.

In the Honors section, you only have 100 characters to describe each of five awards you want to mention. The Activities Section, meanwhile, allows ten activities to be described within 150 characters.

While filling up those sections, it will soon get



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painfully obvious that there is nearly not enough space to elaborately talk about your passions. To get past this, it is important to make every character count.

For starters, use well-known abbreviations like "nat'l", "IMO", and "&" to save space. Next, show, don't tell. Numbers and powerful phrasing can make the difference between a successful and unsuccessful application. Don't say "earned n-th place at xcompetition". Instead, say "placed n-th out of 4000+ participants".

Moreover, the order in which you present your activities also matters. Common App has a very convenient tool that lets you shuffle them for this very reason. Admissions officers review thousands of applications daily and may only spend around ten minutes on yours. So, tactfully place the most impressive or impactful activities at the very top.

Finally, before you submit your application, have someone close to you read through your work to make sure it makes sense and that there are no grammatical errors.



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# Are schools ensuring adequate medical safety for their students?

A.M. FAHAD AND ZABIN TAZRIN NASHITA

In our pursuit of education, we spend a vast amount of our time at our school campuses. The activities of an average school day last somewhere between five to six hours. During that time, we remain under the supervision of our teachers and school staff, away from our homes. Beyond academics, schools play a vital role in ensuring and shaping our overall well-being. Given the time students spend at their institutions, schools must be equipped with the necessary means to tend to a student's health and medical needs, especially during emergencies.

This brings us to the question of how well our schools are doing on that end. The answer to that may depend on the socio-economic status of the school. Schools in affluent areas often have more resources; however, more resources do not always translate to better emergency responses.

"We have a sick room in our college. There are three beds and a first-aid kit, as well as a staff member who provides first-aid care related to cuts and bruises. The sick room usually has access to over-the-counter medicines that the staff hands out in case of gastric-induced pain or fever, that's mostly all. There doesn't seem to be any protocol present for emergencies," says Mahrush Zaman, a first-year student at Notre Dame College.

Even for schools that have a protocol for emergencies, the application may not be as efficient as it ought to be.

"In my school, the students are given a notice with an acknowledgement slip asking the parents to specify which hospital they want their child to be taken to, in case of an emergency. The school provides a few options, like Square, Evercare, and Kurmitola, along with any other hospital preferred by the parents, and asks the parents to choose an option. However, in case of an emergency, the school must take the child to the nearest hospital so that they can get in touch with a medical professional as quickly as possible. The current emergency protocol in-place contains layers of obstacles in terms of searching through the student's files to look for their hospital of choice and then acting accordingly," says Nirjhora\*, a former student from Sunnyside and a second-year student at North South University.

By extension, the situation is more difficult for schools outside Dhaka, as a lack of proper infrastructure and resources prevents them from managing medical emergencies.

"There are no medical facilities or nurses to help us in case of an

emergency in our college. The distance from our college to the nearest hospital is less than a kilometre, but we don't have any transportation available for emergencies either. While there are basic facilities for physical health issues, students can't get the immediate help they need during emergencies. I also believe that we should have at least some means of transportation ready in case an emergency arises," says Asif Jaman Jishan, a student of Ishwardi Government College, Pabna.

As we reached out to more people, the differences between their experiences started to wither away.

"There's no designated medical facility in our school, so we have to go to our teachers for medical assistance. The government hospital is the closest one to the school, but there is no designated vehicle for emergencies. As it is the teachers who provide first aid here, there's no paperwork involved when availing medical facilities. We have a vacant room in our school which may be repurposed to accommodate a nurse and supplied with first aid kits, medicine, and sanitary napkins," explains Syeda Sumaiya Orin, an eighth grader from Narail Govt Girls High School.

Some schools in urban areas do take care to ensure an efficient response to medical emergencies. These institutions, however, tend to be reserved for students whose families belong higher up in the socio-economic status. Although these schools charge higher tuition fees, using available resources to implement proper medical response is a step in the right direction.

Fatima Sadri, an elementary school teacher at Scholastica Mirpur, elaborates on the medical facilities at her institution and the role she plays in it, "We have a trained nurse to perform checkups and oversee medical issues at school. Additionally, we have two staff members who help her. I teach very young kids, so I encounter health issues like small cuts or injuries, headaches, and fever. For such cases, we have a khala who escorts the student to the sick room where the nurse takes care of them."

"We have two separate sick rooms for boys and girls, and each room has two beds for the patients. As a teacher, I'm given a slip detailing the health issues and subsequent treatment, which I sign and hand over to the student's guardians. The nurses also have access to students' information so they can contact the parents immediately in cases of emergencies," she adds.

Fatima goes on to say that her school's medical staff do not stock any medicines or painkillers, which is something she believes they can improve upon. However, she did mention that the medical staff does not want to prescribe anything without the consultation of a doctor, which is sensible given the intricacies of prescribing medicine. Yet, it serves as a reminder of the necessity of a trained professional on campus.

Young children are injury-prone, and older students from science streams are often exposed to risky environments while conducting laboratory experiments. Not to mention, children with disabilities, or those with pre-existing illnesses may need medical attention at a moment's notice. Schools should, at the very least, be prepared to respond to such scenarios by providing instant transportation to the nearest medical institutions.

Even outside of emergencies, students who suffer from chronic illnesses don't fare well without proper medical facilities.

Bornil Murchhona, a student of class nine at Scholastica, has shared their experience manoeuvring school life as someone who suffers from conditions of nerves,



PHOTOS: ORCHID CHAKMA

migraines, bones, and respiratory issues.

"Schools are often prepared to deal with long absences or variable attendance backed by medical papers, but when they have to deal with a student who requires certain extra amenities, they become lost. One of the biggest roadblocks is bureaucracy. The submission and compilation of notes and papers, signatures and dated prescriptions add up. It is an unreasonable amount of documentation that must be done in writing, by the student and their family. This is a difficult task to manage on top of school responsibilities," Bornil remarks.

Some schools in urban areas do take care to ensure an efficient response to medical emergencies. These institutions, however, tend to be reserved for students whose families belong higher up in the socio-economic status.

The infrastructures that are available in most schools aren't feasible for students who suffer from motor function loss like Bornil, who explains, "As an O level student in the Humanities, I have to go through long-winded, complex routes of applications at both my school and the British Council. I had to keep an application with myself even for taking the elevator too frequently. I also had to explain my health issues to individual teachers and guards constantly due to a lack of communication regarding these accommodations. Although I have been lucky enough to have the support of parents and the ability to visit a doctor semi-regularly, schoolwork still becomes difficult to balance on most days."

Bornil also mentions how there's a certain stigma attached to constantly asking for help due to health

reasons, which serves as a deterrent for students who are already suffering.

Given the current situation, it appears that allocating adequate funds to accommodate proper medical facilities is somewhat of an afterthought across most institutions in the country. Yet, it needs to be a priority. To start off, sanitary napkins and first-aid should be free for all students. Additionally, the government must take steps to fund medical facilities in public schools both in urban and rural areas, and private institutions should have sanctions for the same reason.

Dr Jannatul Naima, a medical officer (ICU) at Long Life Hospital Ltd, shares her viewpoint on the minimum facilities schools must maintain, "Schools must ensure isolation for students with contagious diseases like flu and chickenpox, and also educate students on prevention and cure. The moment a student shows signs of a contagious disease, schools need to allow them a hiatus."

"In my opinion, every school should have a medical section, and they should host weekly awareness campaigns. They should teach the children basic hygiene like washing hands, sneezing etiquette, using masks, and recognising symptoms as well as providing a safe space for them to ask for help. Menstrual hygiene and awareness should also be emphasised, and the use of sanitary napkins should be taught. A monthly vaccination campaign, paid or non-paid, should also be hosted for diseases like Hepatitis B, influenza, chickenpox, tetanus, etc. An emergency corner should always be accessible for students who may contract injuries or face headaches and stomachaches."

Medical emergencies are not to be taken lightly by educational institutions, as they assume temporary guardianship of students during school hours. A proper medical facility is not only a necessity but serves to benefit every student, teacher, parent, and staff. As we reform our curriculum and institutions, it's pivotal that we also include the facilitation of emergency medical care.

\*Name has been changed upon request.

Fahad and Zabin like the idea of frog hats and medical safety for all. Find them at: amfahad1747@gmail.com and zabintn@gmail.com respectively.

# What you should know about US COLLEGE APPLICATIONS

**A sophomore at Dartmouth shares his thoughts on how to approach US college applications**

**HRISHIK ROY**

When I was tasked with writing this article on how to get into US colleges, I was a bit sceptical about whether I should actually do so. One of the reasons for this was that I vehemently dislike discussing my high school years, which I am glad I have already left behind. The other was that I simply do not know the answer to the question of how I got into Dartmouth. In fact, this is the primary reason why I don't respond to the questions I receive about applying to Dartmouth, all of which are sitting on my Facebook message requests.

Hence, I feel compelled to preface this article by saying that there is no "right answer" to the question of how to get into Dartmouth, or any top US college, as a matter of fact, and I do not have all the answers.

I think the most important aspect of any college application is academics. In terms of my grades, I did have at least all As throughout my O and A levels. In terms of my SAT score, I had a score in the upper-1500s range. However, I think it is important that people realise that academics are only a part of the puzzle of college admissions.

I remember that in a webinar organised by the admissions office of Davidson College, they mentioned that academics can only take you to the "door" of a certain institution, but whether or not you can cross that door depends on other factors, like your extracurricular activities (ECAs) and personal statements.

So, once we have figured out the academic part of the equation, it is important to talk about ECAs. I think this is where it gets very subjective in the sense that different people have different ECAs that they do throughout high school. In fact, a lot of successful Dartmouth applicants

in the past had drastically different ECAs to mine.

Some of my extracurriculars were focused on public policy, such as my work with the Youth Policy Forum or being on my high school's debate team. On the other hand, a lot of my other ECAs were more indicative of my creative aspects, such as my internship with *The Daily Star*, my podcast, or even the literature and philosophy-related summer programme I did as a part of Yale Young Global Scholars.

However, even if you do not do any of the activities listed above, you should not shed a sweat, because I know plenty of people who did very different things to get into Dartmouth. For example, I know someone who did a lot of science olympiad-related things. I also know someone in my class who did more theatre and visual arts-related ECAs. Therefore, you need to understand that there is no one solution or ECA which fits all. In fact, it is important that you do something that you are really passionate about so that you can convey your passion throughout your essays and supplements.

Speaking of essays and supplements, I think creating a compelling narrative that connects your extracurriculars to what you want to do in college is an important aspect of writing essays. Therefore, when you write your personal statement, think about the different activities you have done and how they have influenced your growth as a human being. Expressing your passion and growth is key to a good personal statement. I think a lot of people often misunderstand the purpose of college supplements. Colleges not only want to know why they are good for you. They also want to know how your presence will contribute to making the college campus and its community a better place.

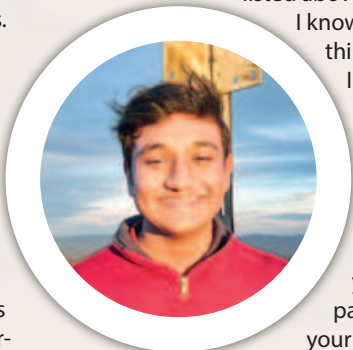
In terms of resources for essays, I think the best resource is the College Essay Guy website, which has a ton of guides and examples on how to write personal statements and supplements.

Additionally, I think it is important that people realise that creating a balanced list of colleges is also an important part of the process. Blindly applying to Harvard, just because it is a top choice for most applicants, is probably not the most strategic move for college applications. Consider factors like whether or not your profile is "strong" enough for the college you are applying to. The amount of financial aid the college typically offers or if it is need-blind are also important factors.

I think in terms of understanding if your profile is good enough in terms of statistics, a good way is to use the Common Data Set which colleges release every year. They often have crucial information such as what aspect of the application the college focuses more on or what the median SAT score is like so that you know if you are above or below the median. They also potentially have information about the financial aid status of the colleges.

Furthermore, you should ideally ask for letters of recommendation (LoRs) from teachers who are best able to describe your character and contributions to the classroom. LoRs do not necessarily have to come from the Principal of your high school. They can also be from a class teacher or any member of the school's administration who you are close with. I, for example, did not ask my high school Principal for a recommendation.

Having said all of this, I think I should reiterate that college applications are a very subjective process. Once you have played the hand you are dealt well enough, things are really determined by factors outside of your control. With that being said, best of luck in putting the finishing touches on your application!





# HEART, CLING TO ME

A.M. FAHAD

Heart, cling to me  
Don't fall from this patchwork home  
I've weaved for you  
Feel my hands wrapped around  
Your cage of flesh, the creaking of my ribs  
Holding in the falling pieces  
You grow heavier with every sentence  
Sunk in-between the crevices on your lips  
Swallowed before their birth  
The sun will go down tonight but  
You will continue to find me here, waiting  
When the world sets itself on fire  
And refuses to look your way  
Heart, cling to me  
We will make meaning  
Out of the holes in the sun

ILLUSTRATION:  
ABIR HOSSAIN



PHOTO: ORCHID CHAKMA

## How to: live

RAIAN ABEDIN

On a bed like a casket, I sit down to write what it means to be a child, and I hear the sweeping of mosaic floors cold as winter feet, and the routine in which my nani darkened her face to the rules that defined her love as something difficult.  
Her children lived under her shadow, the thing known as family, and she lived, hunched over – a neck craning tenderly.  
My grandparents lived in a house older than the country itself, or so I was told, and there, being a child meant occupying the silence of the mosaic until it clung to your face and hair. In about a year, both of them would pass, their beds, first their caskets, then empty. And childhood would start to wane. My shadow never left a mark on the house. My shadow, which meant my weight, which meant my life, which meant my love, would stay silent except for in odd hours.  
My love always arrived wrapped in silence, wrapped in dust. But that was childhood. Today, the sight of my face as just another face on the mirror showed me how love isn't meant to exist under shadows, yours or mine.

## Maybe a MIRAGE

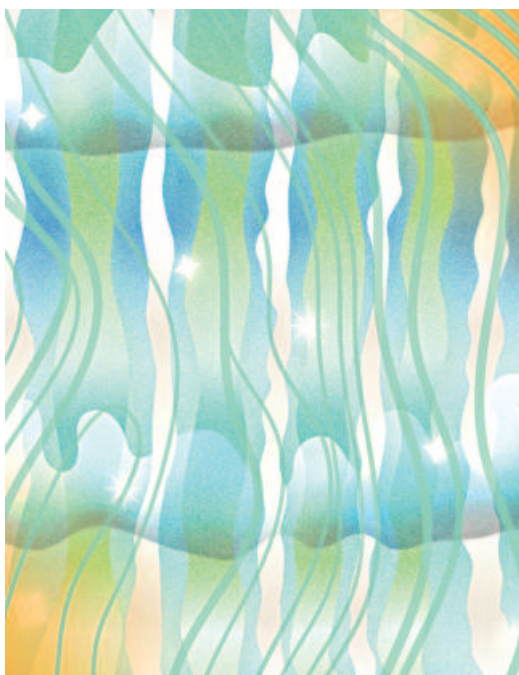


ILLUSTRATION: ABIR HOSSAIN

ANINDYA JEET BASAK

Some things you can be afraid of.  
Something you may lose.  
Something you may...  
You may never find again.

You may be in turmoil.  
You may be in destruction.  
You may feel trapped  
Suffocated, and dreadful.  
You may feel the end.  
The whispers from the certain eternity ring in your ears.  
Is it promised to last forever?  
In a lucid dream,  
we may be in a dream where we live.  
Nothing makes sense, does it?  
Maybe the world is a lie.  
You may be the literal entity –  
the only one,  
where others are just  
non-existent.  
Just a mirage.  
Maybe life itself is a simulation –  
a game,  
an act –  
where everything  
is made up  
for your eternal thought.  
Maybe everything is fake,  
and with no answer.  
We are...  
Clueless,  
Alone.  
So, we are just following through.  
Who would let us know  
that we are alone?  
We have to wake up.  
We have to break the sleep,  
Break the mirage.  
WE MUST WAKE UP!  
And now?  
Who will...  
Who will wake us up?  
Perhaps transcending to the next realm is the answer.  
Perhaps after that,  
we will be up  
and break everything apart.  
*Anindya Jeet Basak is a student of class ten, Udayan Ucchaya Madhyamik Bidyalay, Dhaka.*



# A GRAVE FOR THE FIREFLIES?

## The firefly population decline: Explained

Fireflies glowing across wide open fields offer more than just a beautiful sight. These soft-bodied insects belong to the Lampyridae family, which includes over 2,000 species. Many of them can produce light through bioluminescence – the light emitted by living things through chemical reactions in their bodies.

Originally, the glow served as a warning to predators. Over time, this light evolved into a key part of mating rituals. Irrespective of the purpose, the firefly's glow remains one of nature's most captivating phenomena. And it is perhaps one of our greatest misfortunes that the population of these insects lighting up our world is on the decline.

Discussions surrounding the decline in population and eventual extinction of fireflies have been going on for quite some time. These discussions started gaining momentum once again when various scientific and news publications asked their audiences a rather jarring question: Are we the last generation to see fireflies?

### Why ask this question in the first place?

A 2024 study published in the journal *Science of The Total Environment* paints a concerning picture. Through studying over 24,000 surveys collected through Firefly Watch – a citizen science programme – the research reveals a steady decline in firefly populations across North America.

Something similar was noted in a 2019 study conducted by a researcher from the National Centre for Coastal Research (NCCR) in Tamil Nadu. As per the study, there was a drastic decline in the population density of a species of firefly in Barrankula village in Andhra Pradesh. The population density had dropped sharply from over 500 individuals over a 10 square-metre area in 1996 to only 10-20 in 2019.

### Factors that are contributing to this decline

Typically found in temperate and tropical regions, fireflies thrive in moist habitats like wetlands, marshes, and damp woodlands. Such environments offer the cool, dark, and nutrient-rich conditions that firefly larvae need to grow before emerging as adults.

Unfortunately, rapid urbanisation, deforestation, and the expansion of agriculture have drastically altered these natural spaces. As habitats are destroyed or broken into smaller fragments, firefly populations struggle to find the resources they need to survive and reproduce.

Light pollution is another pressing threat fireflies face. Fireflies use natural bioluminescence, which are short bursts of light, to find mates. But artificial light from streetlights, car headlights, homes, and billboards can overwhelm these delicate flashes.

That, in turn, makes it difficult for fireflies to locate each other and find mates. In fact, studies suggest that light pollution is becoming a more immediate danger than habitat loss in certain areas, dimming not just the night sky but also the fireflies' chances of survival. The study published in the *Science of The Total Environment* we mentioned earlier also suggests that certain fireflies tend to avoid areas with more artificial light.

Chemical use in agriculture further complicates the picture. Pesticides not only kill fireflies directly but also target the small creatures, like worms, that firefly larvae feed on. When these prey populations shrink, firefly reproduction slows. Contaminated water sources and soil also weaken the ecosystems that support their entire life cycle.

Adding to the crisis is climate change. Rising temperatures can cause fireflies to emerge too early or out of sync with the

availability of mates and food. Shifts in rainfall and humidity disrupt the moist environments they need, drying up wetlands or flooding key breeding grounds.

### There's still hope

In an article published on WSET, Eric Day, an entomologist with Virginia Tech, was quoted saying, "It is extreme to say that this is the last generation that is going to see fireflies. I think we're going to see them for many more generations. We have to always be aware that they are threatened by human activities and development, and hopefully, we can have a balance between that development and protecting fireflies."

Hence, for our future generations to witness these glowing insects thriving in the wild, humans must step up their efforts to protect the environment.

Limiting light pollution, using more environmentally friendly pesticides, and preserving their habitats can help fireflies exist for generations to come.

The firefly population is another reminder of the broader environmental challenges that humans and our planet face at the moment. The disappearance of these insects is a sign that our ecosystems are degrading, and without proper conservation and environment protection, fireflies, as well as many other species, including humans, will be at risk of extinction.

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