

THE IRON WARRIOR

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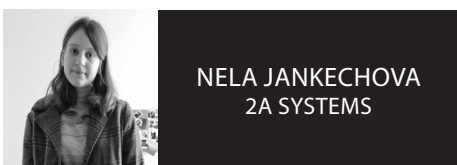
The State of Math Education

Is there really more than one way to add numbers?



michael_swan via Flickr

Are we truly preparing these students for math?



NELA JANKECHOVA
2A SYSTEMS

When I was in eleventh grade, my high school put forth an initiative to make peer tutoring more widely available. A classmate of mine had volunteered to instruct ninth and tenth graders in math, and his outlook wasn't optimistic. He was frustrated with the students, who often struggled with the basics. "She couldn't add double digits in their head," he reported about one ninth-grader. "She had to use her calculator."

This would not be a pressing issue if it weren't for the overall pattern. The national standard in math has been falling against that of other countries in the OECD survey. In Ontario, the quality of mathematical education in elementary schools was seriously called into question in 2016 with the release of the EQAO results: only half of the sixth graders writing the test were able to meet the provincial average; falling 8% short of the previous year's pass rate, and further disproving the notion that 75% of students can pass the 'Level 3' benchmark. The 2016 results weren't an

anomaly, either: The pass rate dropped to 49% in 2018, and again to 48% in 2019.

The resulting bout of tirades was almost unanimous in casting the blame -- the culprit was the Ontario curriculum. Having relegated classical methods, it pushed for more progressive methods of teaching which ultimately failed. This might seem counter-intuitive at first. The new "problem-based", creative approach to learning math appears logical: it aims to make students understand, rather than blindly memorize the material. Under this curriculum, students would use practical approaches to solve problems on their own. It seems correct to teach critical thinking at the elementary level, and it is; the problem isn't in the ideology but in its application.

By neglecting the traditional building blocks of mathematics, the curriculum strays from what we know from the study of cognitive development to be the best method of instruction for children. In order for students to effectively learn math, they need to practice and master the essentials. Memorization, in this case, prepares students for higher-level learning: reciting times tables isn't an unnecessary vestige from the days of old but a requirement for a thorough understanding of the basic

mathematical concepts. Elementary school students do not have sufficient background to be able to learn on their own through inquiry-based activities. It is a pointless exercise in putting the cart before the horse. As said by New York Times columnist David Bornstein, "Asking children to make their own discoveries before they solidify the basics is like asking them to compose songs on guitar before they can form a C chord."

This approach leads to poor results when solving more advanced problems is hindered by a weak grasp of the basics. If you do not understand the foundations of math well enough, anything beyond requires sheer memorization and suspension of disbelief; the opposite of the values one would hope this method of instruction would promote. In middle school, I myself was a peer tutor; I helped a seventh-grader with science and math homework. Halfway through the semester, I discovered she didn't know that the order in which you multiply numbers is irrelevant, that the product will remain the same. In class, she was learning pre-algebra. How could she begin to justify order of operations to herself when this is what she believed? Memorization of key concepts such as times tables doesn't just give kids the ability to rattle off six by four

or two by three. It teaches them necessary and invaluable mathematical concepts.

Curiously, critiques of the curriculum seldom mention the flip side of memorization: by knowing the material, students are able to find its patterns, often without the guidance of a teacher. As a second-grader, I avidly described my method of remembering my nine-times-tables to a friend, who looked at me strangely. "I just multiply by ten, then take away what the first number was," she said. What she described bears a close resemblance to the method taught under the problem-based curriculum, which outlines how to break apart numbers to multiply them more easily. The difference was that by learning the times tables the hard way, she figured this out for herself. Conversely, starting with this sort of approach leads to confusion and does not build the base knowledge needed in later grades. Children are capable of learning the tricks of the trade. But you must first teach them the trade.

It is impossible to criticize this system and to analyze its shortcomings, without considering the countries whose systems of education outrank that of Canada. The

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Letter from the Editor Vol. I

I'm back!



KIRSTEN EHLERS
ACTING EDITOR-IN-CHIEF

So, I'm back! Temporarily at least. Did you miss my rambling? For those of you who don't know, I was editor last term. Excuse us for the late issue, we've had a complicated start this term. Nonetheless, we've got a great issue for you.

Dear Darla is back! We've also introduced Miss Irene Wray. Follow up with the next issue for more details on her. Darla also takes your questions. E-mail theironwarrior@gmail.com with your questions. I was delighted to see that the horoscopes include my lucky GRT route. I'll make sure to take the Elmira bus at some point. I'm not on campus this term, so I had to miss all the shenanigans of disorientation week, luckily someone took some photos. So if you're like me, catch up here. Finally, Ewan and Samridhi collaborated on probably the best Point/Counterpoint I've ever read. The crossword

is really punny this time. Yonael wrote the clues for me.

Nela (crossword 43 down) has been a fantastic co-editor for this issue. This term, we're doing something a little different. Every issue will have two editors. This is an attempt to make transitions for future editors a little easier for everyone. We're really excited to present this issue to everyone.

We will only have two more issues this term.

What's happening on campus right now? I usually write a little bit about this in my editorials but I don't know. I'm not here. GRT strike was a thing. That was a bummer. WUSA election came and went. Congratulations to Team Vision. Fourth years went wild at IRS. There was a bouncy castle in QNC?

Now news blitz!

It's been rough so far.

Teachers are on strike. This really baffles me. Why is this still happening? Why doesn't the public demand a fair deal? Why don't people understand what this strike is all about? I feel like everyone knows a

teacher.

The Iowa caucus was a disaster. I've recently started watching *The Bachelor* and I can't decide what's a bigger mess: 30 women competing for marriage on reality TV or the Democratic leadership race. An app broke; phones were backed up. The results were confusing. No one really knew the winner.

Coronavirus. It's still bad. More on that inside.

Australia. This breaks my heart. This really should be the evidence we need to do something drastic about climate change. We need to do something big.

Trump was acquitted. Sigh. Impeachment was fun while it lasted.

Let's pretend January never happened. At least Warton Willie called for an early spring. So that's something.

Valentine's is this week. I love Valentine's Day for two reasons. Firstly, conversation hearts. Secondly, cinnamon hearts. I feel like Valentine's Day has really polarizing candy. You either love them or hate them.

So that's all from me. Happy Valentine's day and have a wonderful reading week!

Letter from the Editor Vol. II

If you can walk and talk...



NELA JANKECHOVA
ACTING EDITOR-IN-CHIEF

Hello, dear readers. This term we will be offering a prix fixe menu of Editors-in-Chief -- a different one selected for each issue -- and I am honoured to be your appetizer. I'd like to start off my letter with a few words of gratitude for former Editor in Chief, current co-Editor in Chief Kirsten Ehlers, who has done most of the heavy lifting to get this issue in publication. Kirsten has been a patient teacher, and has held my hand through the exciting process of editing the *Iron Warrior*. She has also created this month's crossword, which you can find on the last page. If you see her around campus, make sure to give her a little salute for her honourable service, and perhaps ask for her cake-mix cookie recipe.

Co-op season is upon us, and I hope you are all taking care to avoid burnout. Your health and peace of mind are simply more important than employment, no matter how urgent landing a job may seem. The scramble for work is challenging enough when the only competition is your Waterloo peers; it is marginally more difficult in the winter, with other university students in the mix. However, it appears we may soon be joined by a new group of students.

It may interest the reader to know that Brock University, formerly one of the two remaining Canadian universities without

an engineering program, has popped its engineering cherry last month. Students now have the option of taking a minor in engineering science. Eventually, the program will expand to a broad range of undergraduate and graduate degrees, with a focus on the "humanist perspective" of engineering, in the words of Greg Finn, Provost and Vice-President. The announcement doesn't delve far into the specific disciplines of engineering Brock will offer; given the location of the university on the Niagara escarpment, and its pre-existing winemaking program, we can only hope that LCBO engineering is on the horizon.

While Engineers Canada does not have Brock University listed just yet, I

suppose it's only a matter of time. Will Laurier, too, follow the path to Engineering Accreditation? Perhaps, one day, will our children and grandchildren say the words "Laurier Engineering" without a trace of sarcasm?

I have heard many contrasting opinions about the introduction of this new program. I am, however, optimistic about the emergence of new options for technical university education. Whatever the future of engineering may be, let us all face it together.

I wish you all a serene midterm season, a swift and successful job search, and of course, a studious and sexy reading week. You can contact Kirsten and I at theironwarrior@gmail.com.



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high math performance of Singaporean students, for example, is often cited in articles as an ideal which we should aim to replicate. The same applies for South Korea and Japan, which scored higher on the OCED PISA for mathematics than Canada but lower than Singapore. The academic prowess of these countries is widely admired; their context (at least in tirades against our own system) is often ignored.

Even if a more meritocratic system was

proven to be the best solution to Canada's faulty system of mathematical education, could we really adapt to it culturally? Sources are divided as to whether the "Asian Model" could be replicated elsewhere. Some ascribe the system in Korea to the Civil Service Examinations of the Choson dynasty, implying that it is the natural outcome of a particular sort of a particular set of historical circumstances that may not be replicable. Furthermore, statistics show that Asian immigrants to Western countries are more likely to invest above-average amounts of money into

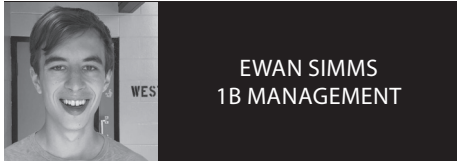
their children's education and that their children are more likely to academically succeed. Conversely, some studies found that investment in tutors was determined mostly by wealth, and by ethnicity and culture only insofar that it affected wealth.

This last point is crucial because the positive effect of wealth on the quality of education is undeniable even in Ontario. A Toronto Star survey revealed that 77% of respondents believe economic status affects education, and they would be correct: standardized test scores are higher in high-income neighborhoods.

Alarming, the disparity between the highest and the lowest ranking students in Ontario (the mathematical bell curve) has been increasing as well. All the while, the rate of families paying for private tutoring services has been on the rise. If Canada -- whose system of education is significantly less demanding and less oriented towards standardized testing than that of other countries -- already requires investment to succeed academically in the most elementary level, how much more privatized could it get if it were a meritocracy?

Strike Strike Revolution

What are all these strikes about anyways?



EWAN SIMMS
1B MANAGEMENT

The strike of the knell and another set of picket lines is up. The Association des enseignants et enseignants franco-ontariens, the union representing all teachers and teaching-assistants in francophone Ontario schools, are going to walk out. This marks the last of Ontario's four major teacher's unions to announce a strike in protest over the Ford government's proposed educational changes.

There are several sticking points between the two parties; salary, all-day kindergarten, mandatory online learning, support for special needs students and class sizes. The Ford government insists that the teachers are mostly concerned with salary increases, while the unions say that the latter issues are what they discuss at the table. Both sides have been in heated negotiations since the fall, with little headway being made, and several false alarms over tentative agreements.

As part of the Progressive Conservative's various rounds of cuts, purportedly to balance the budget, most public-sector employees in Ontario have

been capped at a 1% pay increase per year, below the predicted rate of inflation of about 2%. It was the government's plan to extend this policy to teachers, but the unions remained uneasy about this idea. The education minister, Stephen Lecce, claims that this is the unions' main demand. However, the unions say that their salary concerns are with respect to less well-remunerated teaching positions, like educational assistants and early childhood educators.

Funding for these support services is also being reduced. The services are targeted towards more vulnerable children, such as those with learning disabilities or precarious home situations. Many teachers say that they simply cannot meet the basic needs of these students while also instructing up to 28 of their classmates. The PC government has raised the caps on class sizes across the province, drawing the ire of teachers, who claim that increased class sizes decrease the amount of time and attention they can give to each individual student. These two issues have been taken up by all four unions, suggesting that if compromises are to be reached, it would likely be in one of these areas.

One of the thornier issues between the Ontario Secondary School Teacher's Federation, which represents all teachers

in public high schools, and the Ford government, is mandatory e-learning. The original proposal of four mandatory online courses was backpedaled to two in the fall after a particularly negative reception by students, teachers and the public. No other province in Canada has even entertained the notion, though several states in the U.S., where most public systems are notorious for their lack of funding and low quality, have implemented the policy. Many complain that online learning is not near the same level of quality as in-class instruction

and that people from rural and isolated areas to have unreliable access to the internet.

Public and catholic educators are in the midst of rotating strikes, with the French teachers now joining them. Several perceived breakthroughs have come up nil, but the province is not considering back-to-work legislation quite yet. The Ford government has offered financial compensation to families with children affected by the strike, indicating that there is possibly more money that could bring to the bargaining table.



Daniel Drigo via Ryersonian

Teachers are taking a stand for their students across Ontario

Is There a Pandemic?

A brief rundown on coronavirus

KSHIN PATEL
1B BIOMEDICAL

On December 31st, many people in the city of Wuhan, China were reported to have pneumonia-like symptoms as a result of a then-unknown virus. On January 7th, China officially informed the World Health Organization (WHO) of a newly discovered virus called 2019-nCoV or the 2019 novel coronavirus.

So, what exactly is a coronavirus? Coronaviruses are grouped based on the fact that they are linked to having the ability to infect both humans and animals. Symptoms are similar to those of common cough and cold but can develop to become more serious infections like bronchitis and pneumonia. China has had a previous coronavirus epidemic that occurred in 2002. It was called Severe Acute Respiratory Syndrome (SARS), but the number of cases of coronavirus has exceeded those of SARS.

The new strand of reported coronavirus had been previously assumed to originate from a seafood market in Wuhan where wild animals were also traded illegally. Further studies were done by virologists working at the Wuhan Institute for Virology where they were able to identify the genetic attributes of the virus. They found that the virus's genetic makeup was a 96%

match to coronavirus found in bats. The virologists concluded that the coronavirus was probably spread by the bats and there were infected people prior to when cases were officially declared. WHO officially declared the coronavirus an international public health emergency on January 31st.

As of most recently, more than 34,000 people have been infected and the death toll has risen just past 700 with the first United States citizen having died from the virus in Wuhan, China on February 6th. More than 25 countries have reported at least one case of the virus and some have confirmed cases of infection where the person was infected through human-to-human contact with another who had traveled to the city of Wuhan. As of now, Canada has reported 7 cases of the coronavirus with four cases in the province of British Columbia and three in the province of Ontario. The difficulty with tracking the coronavirus is its lengthy incubation period. A person can have the coronavirus but not show symptoms for up to two weeks. This makes it difficult to prevent the spreading of the virus and risks the chances of an individual becoming infected.

Although it feels as though the situation is heading in an unpleasant direction, there is still hope that the virus is not as deadly as other types of coronavirus and may possibly be curable. Some individuals who

were infected are reported to have returned to a more stable condition and displayed no symptoms of the coronavirus. They were discharged and allowed to return home.

This has given many researchers who are working to find a cure for the coronavirus hope at finding one in order to treat those infected more efficiently. Additionally, each country is taking the necessary precautions to prevent the virus from

spreading further. It is important at times like this to remember to support and help those around us, especially those who may be having difficulty dealing with the reality of such an epidemic. It is also important to support those around us who have family and friends in China or any other infected countries that may be affected by the coronavirus as this is a difficult time for everyone in the community.



(Dis) orientation



Ella Walsh

And SYDE said “Let there be BME”. And it was good.



Ella Walsh

Just in case we forgot.



Ella Walsh

This statue is never purple.

Zero Waste Shift

What is the environmental cost of all that drinking?



Here at Leafy Thoughts, I’m always curious about my effect on the planet. Here in Engineering, we live firmly by the creed “technically, alcohol is a solution”. What is the commonality between alcohol and the environment, you may wonder? Let me explain. This issue will be coming out the week after Disorientation Week, that time when the fourth years go a little nuts in the lead-up to getting ringed. No small amount of alcohol will be consumed during this week, and this got me thinking: what is the effect of all this drinking, not on our bodies or our wallets, but on the environment? Read on for a free FYDP idea.

Alright, let’s start with the oBREWvious: we use a lot of water in the process of making beer, wine, and other drinks that, when you get right down to it, are not strictly ~necessary~ for us to live. Some may choose to argue me on this, but I’m just giving you the facts. What about energy though? If you’ve ever been to a brewery you’ve seen those big steel containers, some of them are heaters, some are coolers, either way, they use energy. It’s also energy-intensive to ship the products, as with any mass-produced thing, and there is a lot of plastic, metal, glass, and cardboard used in this process that does not get recycled. But hey, “shop local” doesn’t just need to apply to fruit and veg, reduce your carbon emissions by buying local brews! Of course, if you want to have tequila or scotch or a nice French wine, you’re going to have to consider the trip it made to get to you in Canada.

But aside from the obvious impact of delivery, what are the hidden environmental costs? Refrigeration might just be number one on the list! Number two? Glass. Most of us don’t think about it when we return bottles for collection, but recycling glass in many cases is not “rinse and repeat”. In the case of “standard” beer bottles (the

dark brown ones) they go to a bottling plant where they’re washed and re-used, but some bottles are “one-time use” like Corona and Heineken. These bottles are specific to the company and since they’re imports, we don’t ship the bottles back to the manufacturer. As a result, these bottles go to a facility where they’re crushed down and re-melted into a new bottle – a highly energy-inefficient process. What about cans? Writing this article, I was shocked that my mantra “at least aluminum is 100% recyclable” is false!

Well, sorta. Aluminum is still recyclable, but no one wants to convert it back to sheet metal. Car and airplane manufacturers are not interested in using it to make vehicles because it’s a lower grade, so the plants that manufacture aluminum sheets make the good stuff that pays better, rather than can sheet. As a result, beer and pop companies here need to buy imported

aluminum, while pop and beer cans pile up in scrap yards! The system is broken, folks. I don’t know how to fix this but if any lower-year systems or mechs or trons are reading this, you have my permission to use this for your FYDP, you’re welcome. Make recycling cans domestically more profitable!

I guess we should make a mention of farming as well, because no matter what you’re drinking, once upon a time it was something that had to be grown. Some of the base ingredients are only used for alcohol production: certain grapes aren’t actually edible as fruit, no one eats hops (and if you do, you’re a monster), the list goes on. Possibly the worst offender in the category of a bad crop is rum which is made from molasses and cane syrup. Sugar cane is terrible environmentally, which is ironic because how can plants be bad for the planet? The problem arises when

you’re converting a lot of land to farming things that shouldn’t live there, in the case of sugar cane it completely disrupts the microorganism balance. So, only consume cider, a drink made of apples which are deliciously fresh and fermented (in cider, not on their own) and grown in places where they’re native!

In fact, there’s something to be said for drinking lower ABV drinks, because typically the lower the percent alcohol, the less of a carbon footprint it has. Beer first, wine second, and only drink the hard stuff if you really hate the planet – especially tequila, which produces a by-product that acidifies the soil and contaminates groundwater. At least chickens and cows can eat that stuff leftover from the beer-making process. I HOPALE this talk about the planet didn’t bum you out – try not to drink your coping mechanism if it did!

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Point Vs. Counterpoint

POINT

EWAN SIMMS
1B MANAGEMENT

The relationship of child to parent is the most important relationship in the world; one in which values, knowledge, and love have been transmitted from generation to generation for time immemorial. A parent is expected to provide a safe and nurturing environment for their children to grow. In return, a child should support their parents to the best of their abilities and maintain a warm and loving relationship with them.

Love, which is fundamental to this relationship, is built on trust. As a kid, you trust your parents to be your guardian, protector, advocate, and provider. Once a child grows up, a parent should trust their children to support them; help them adapt to the changing world, tell them the unaltered truth, and help them live up to the values they provided. If a parent cannot trust their child, who can they trust?

If the parents have set out to be vegetarian, their children should support them in that choice. Obviously, the parents are vegetarian because they have deeply held religious, moral or ethical convictions. A child need only encourage their parents to change values when these values engender harm upon themselves or someone else. Objectively, vegetarianism brings no harm to anyone; in fact, it is shown to be healthier than many North American meat-based diets, more environmentally sustainable, non-harmful to innocent and unsuspecting creatures. In conjunction with any religious reasons, there is no reason to dissuade one's parents from this choice, one could argue there are reasons to encourage them.

Vegetarian parents, like all other parents, are fallible. Take Mott's clamato juice. The bottle is red like a tomato, and the packaging features tomatoes, celery, limes, and, tucked away from the action, one unremarkable shell. Now, this tiny, obscure shell could be easily written off as a stylistic choice. There is very little to indicate that one of the main ingredients is clam juice, which is decidedly not vegetarian. It's easy to see how vegetarian parents could mistakenly overlook this.

If the child, who is well aware of the clam components of clamato, saw this happen only once, it could easily be ignored as a minor misstep. A couple of repeat performances of clamato consumption and the child should start to take note. If the clamato juice deluge developed into a habit, the child should immediately alert their parents. To remain mute is akin to betrayal. That would be a lie by omission, and a glaring violation of their trust.

It is best to receive difficult and embarrassing news from those we trust. Strangers and acquaintances do not know us well enough to let us know with just the right context and just the right delivery. Furthermore, when it comes from someone who we trust, we know this news is coming from a place of love, not a casual desire to stir the pot and ruffle feathers. It shouldn't be easy for us to tell something upsetting to a loved one, because we empathize with their emotional well-being. However, the longer one waits, the more people silently take note of what can easily be described as the parents' hypocritical and deceitful ways, even if they are only committed out of ignorance.

Unless one hopes their parents remain ignorant of the Clamato clam-spiracy unto the grave, someone, less concerned with their welfare will reveal the fallacy, maximizing the inevitable damage. One would rather

I should tell my vegetarian parents the truth about Mott's Clamato.

SAMRIDHI SHARMA
4B CHEMICAL

have their friend point out the broccoli between their teeth than their boss. Sparing someone's embarrassment in the present is only kicking the can further down the road.

As surely as time flows, it would be uncovered how the child remained mum over their parents' mistake. You can imagine the hurt the parents would feel, knowing their child could have told them the cold, hard truth and saved them from misfortune but instead chose to assuage their own insecurities and hesitation. Pre-existing rifts would be repronounced, and the delicate bridge of trust that takes so long to nurture: lurched by the whirlwind of distrust.

One might protest that their parents like clamato juice so much, that the stain on their honour is disproportional to the joy it brings. What kind of joy though, is that built on lies? Once the jig is up, it will crumble like ashes in the cold wind, leaving nothing but the bitter sting of shame and regret, all the fleeting joy poured away like their last bottle of clamato.

You should substitute this temporary pleasure with long-lasting happiness. By telling one's parents the truth, you are demonstrating just how much you care for and love them. Is not a child's love sweeter than Mott's clamato?

Recently, while I was home for the holidays, I discovered, in my parents' refrigerator, a bottle of half-empty clamato juice. Now, I understand the need for clamato juice on a hot sunny day where it is refreshing in its own salty way. I also understand the appeal of wanting something tangy, salty and delicious over the same old regular can of pop. There is only little detail that has been irking me since – my parents are vegetarian. And there are only a couple of possibilities that I think can justify why my parents are guzzling tomato juice like an old Jeep guzzling gas – one, they don't know clamato juice is made of clam juice; and two, they don't know what clams are. But I strongly believe that I still shouldn't tell them that clamato juice is non-vegetarian and that it has clam juice. Here's why:

Both my parents were raised vegetarian. They have never had the experience of eating anything even remotely close to meat, that is until they moved to Canada from India and had to check labels before buying anything at the grocery

store. This is how I sincerely believe my mum found Clamato juice. Imagine this. It's a warm sunny day in Calgary and my mother (you don't know her, so just imagine a brown lady) is out shopping at No Frills. She is parched and her water bottle is sitting in the car where she can't reach it. She sees this bottle of red juice. Tomato! We all know she loves tomatoes. The packaging says "Clamato Juice". "Tomato Juice" was obviously taken," she thinks to herself, makes no more of it, buys the juice. It was love at first sip. Now, this is how it plays out in my head, but it can't be too far off from reality. Tell me now, would you tell this beautiful and oblivious mother of mine the truth? Despite knowing how much she loves Clamato? If you say yes, you're a monster.

I have another argument for why I don't think I should tell my parents that Clamato is made with clams. Here it is: clams do not feel pain. A quick search on the internet brought me to the conclusion that clams do not have pain receptors and do not feel pain. Now, I know that doesn't make it okay to kill clams but people all around us are eating all kinds of meat while my oblivious parents just want to enjoy a nice glass of clamato. Why should I be the one telling them they shouldn't?

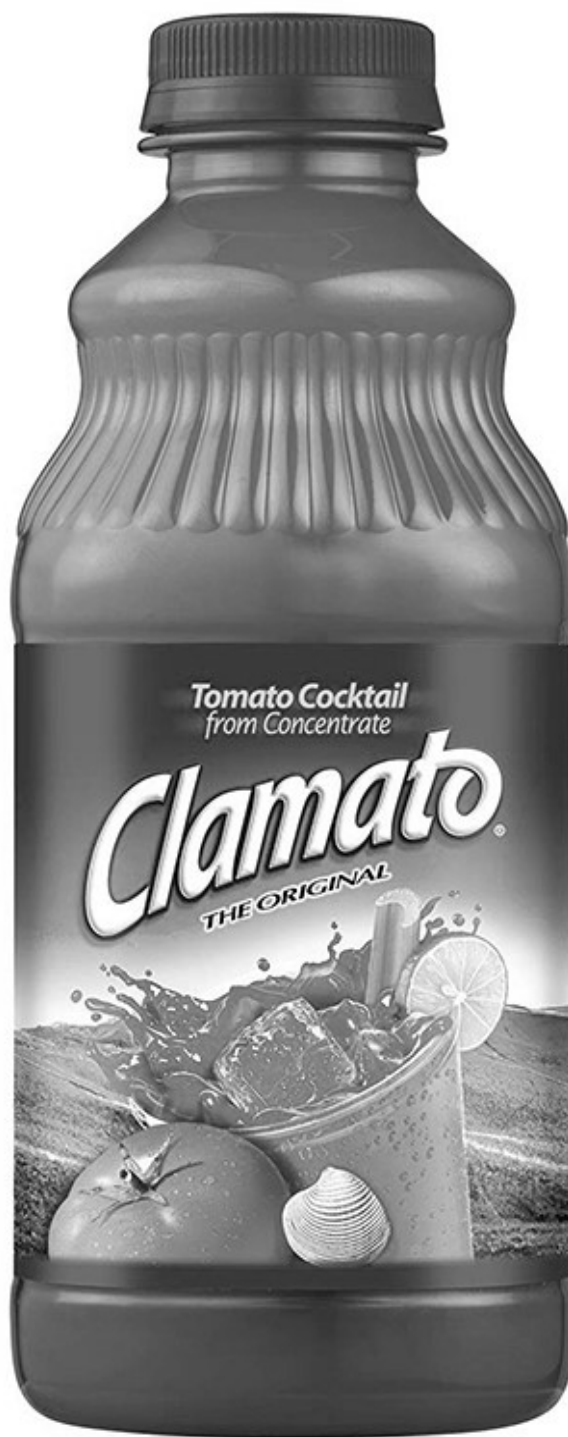
I also discovered that clams are rich in protein and, as I told you, my parents are vegetarian with little to no protein in their diets. I'm doing this to save them from themselves, okay? They need to have their protein so their bodies can recover from all the heavy lifting they do at work all day. It's like when our parents used to hide broccoli in our pizza so that we would eat our veggies. I am just returning the favour. It's time for them to eat their meat.

Consider, also, that the only other beverage my parents enjoy is tea. Tea flows in our household like water. They drink tea as it comes out of the tap in the kitchen. They drink tea like their lives depend on it. I am not exaggerating. My father, before he even leaves for work at 8:30 in the morning, have usually had at least three cups of tea, excluding the to-go cup. I am convinced that they drink like eight giant cups of tea every day. The tea is not black, my friends. The tea has our usual 2% milk in almost 1:1 ratio with water. It also has a teaspoon of sugar. Eight teaspoons of sugar consumed every day is not healthy when it comes almost solely from tea. Now if they are drinking Clamato instead, their tea intake is cut down a little and its just healthier for them. Why would I tell them the truth about Clamato if I want them to be healthy?

Also, have you considered how awkward that conversation will be for me? If I decide to tell my parents now, after they already know that I have seen them drink Clamato, their favourite cold beverage, they would ask me why I didn't say anything earlier and I would have to reiterate everything I just wrote in this article. But let's be real, they don't want to hear that I was looking out for them. The worst part is, I know my parents, they won't be mad, they would just be disappointed.

So now you know why I wouldn't tell my parents that Clamato has clam juice. If you have arguments against my reasoning, feel free to reach out to me at s273shar@uwaterloo.ca.

COUNTERPOINT



American Food Mart

What would you do to ensure your parents can enjoy this beverage?

Editor's Note:

Point vs Counterpoint is a feature meant to stimulate discussion on thought-provoking topics. The views and opinions expressed here do not necessarily reflect those of the authors, The Iron Warrior, or the Engineering Society.

Dear Darla

Chronicles of Irene Wray

DARLA
IRON WARRIOR, ADVICE EXPERT

Dear Darla,
What must one do to find love in our modern age?

I have swiped right and left until callouses have plagued my poor thumbs. I have stared, smiled, and laughed at their bad jokes, but they dodge my shot every time. I have networked in bars, hackathons and employer information sessions, but I still can't find someone to give the link to my heart. It seems like they'd all rather go to Cali than bust in me.

Where, my most dearest Darla, must I go to find the one who can make my heart race faster than an email from Waterloo Works?
-Irene Wray.

Dear Irene,
Have you ever considered the pattern of your loveless life? Maybe if your data

analysis skills were half as good as you probably say they are on your résumé, you would notice a trend. An underlying causality, that just can't be cleaned from the data. This common denominator is you.

Yes, it is blatantly obvious, and you're ignorant for missing it, but such is the human ego. Your dry romantic life is a self-provoked drought, your obstacles are homemade and your despair is painted by your own hand. Your own anxiety has frozen your romantic ambitions in an inescapable torpor, that you may have never left until you came to me. Assuage your measly mind, I can deliver you to exaltation.

If you are anything like the rest of those who come to seek my advice, you have many key areas of improvement. You probably place academic and economic success over your emotional wellbeing. You might say it's more comfortable to cry in a silk handkerchief than whatever the university insists is toilet paper, but why

bother crying at all?

Money, wealth, power, GPA are only tools to achieve life's ultimate goal: happiness. Romance is a far more effective technique. In your darkest hours, the love of a romantic partner can bring you happiness, pleasure, and joy. All your money can do is numb you, but it cannot heal you. The rush you get from purchasing materials and experiences is hard to come across, but it is only a rush, rushing away as fast as it comes. A relationship doesn't rush onto you, it builds its way into your heart.

Love shouldn't be restricted by red lines; it should be the one drawing them. What are you going to gain from writing a lab report for 3 hours? A higher grade, that may marginally improve your employment prospects and increase your lifetime earning by a couple thousand dollars. We live in the modern world, almost any job will provide you your basic needs. What if you spent that time building a meaningful

relationship, feeling the excitement, fun, and happiness that comes with it? Money is an immaterial concept, housed outside of yourself, which can only be occasionally translated into positive sensations; simply put it is entirely distinct from happiness, and no relationship is bought.

So why should you deny yourself from feeling good; in fact, what is there to life besides feeling good? If you aren't taking concrete steps towards building your happiness, you are not doing anything meaningful or helpful for yourself. Finally, after working on yourself, where do you go to meet people with whom you share your lust? ...Well, I know just the right people.

xoxo,
Darla.



Funny Bits



Horoscopes

AQUARIUS
JAN 20 - FEB 18

A group assignment with interesting characters is in your immediate future. Your lucky GRT Route: 12 Westmount.

PISCES
FEB 19 - MAR 20

You will receive important news from somebody with an inspirational quote and possibly even a jpeg in their email signature. Your lucky GRT Route: 19 Hazel.

ARIES
MAR 21 - APR 19

On your upcoming midterms, it is imperative that you do the first question last. This is the key to your success. Your lucky GRT Route: 16 Strasbourg-Belmont.

TAURUS
APR 20 - MAY 20

A pivotal breakthrough in your underwater basket weaving app is on the horizon. Your lucky GRT Route: 29 Keats-University.

GEMINI
MAY 21 - JUN 20

Keep an eye out for rogue energies at DC basement printers, carpeted hallways, and the campus Chatime. Your lucky GRT Route: 21 Elmira.

LEO
JUL 23 - AUG 22

In lieu of a written fortune, the stars request that you visualize three polyhedrons orbiting within a hollow sphere. Your lucky GRT Route: 33 Huron.

LIBRA
SEPT 23 - OCT 22

The search for a co-op placement may seem daunting, but don't apply for Hidden Acres Mennonite Camp just yet. Good fortune is soon to come. Your lucky GRT Route: 10 Pioneer.

SCORPIO
OCT 23 - NOV 21

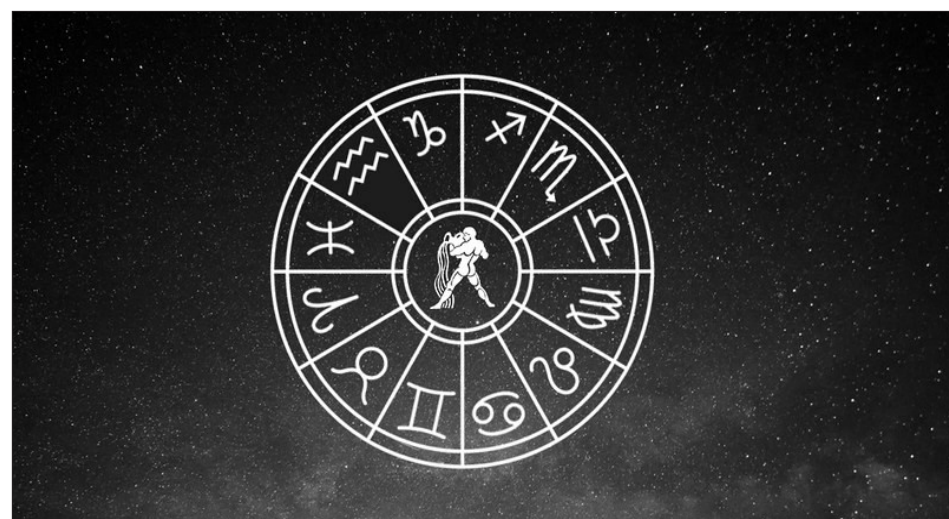
Don't let your nostalgia for lime scooters lull you into impulsive decisions this week. Your lucky GRT Route: 5 Erb.

SAGITTARIUS
NOV 22 - DEC 21

The large, slightly lumpy cookies at the C&D are usually oatmeal raisin, not chocolate chip. Bear this in mind in the following weeks to avoid tragedy. Your lucky GRT Route: 31 Columbia.

CAPRICORN
DEC 22 - JAN 19

You will read a horoscope today. Probably. And tomorrow, 100% certain. The next, definitely not. Your lucky GRT Route: 7 King.



Numerology Sign via Flickr

CANCER
JUN 21 - JUL 22

The inexplicable urge to visit the Clay & Glass gallery will cross your mind next week. Your lucky GRT Route: 8 Weber.

VIRGO
AUG 23 - SEP 22

It may be wise to avoid entities starting with "P" and ending with "hil's" this week. Your lucky GRT Route: 9 Lakeshore.

Keeping track of \$\$\$

LINDSAY GLOFCHESKIE
VP FINANCE

Welcome to the Winter term! I'm really excited to work with y'all and help make sure that EngSoc's finances are under control. I spent last term working with directors to make a sustainable budget that works with how the student choice initiative impacts us. We approved the budget at

council a few weeks ago, with no major changes. It's since been sent to WUSA and approved, so we're expecting to be able to actually fund events for the rest of the term! This term I'm working on 2 main things: Updating Novelties, and making our budget sustainable. For Novelties, I'm looking into getting new items based on y'all's interests! This means we'll have to try to clear out items that haven't historically sold well. These

items will be up for grabs in the EngSoc Photo contest, and for prizes at events! (I promise they're really cool, most people just don't know they exist). I'm also interested in hearing from you to find out what you know about Novelties and what you'd want to be changed about Novelties. (You can fill in my fancy lil survey here: <http://bit.ly/W2020NoveltiesQ>).

In order to make the budget more sustainable I'm looking into other options

for our large costs. Currently our fixed costs are a little higher than they need to be, so I'm working on lowering that somewhat. I'm also looking into different structures for our ECIF and Sponsorship spending. More updates on this during council and most likely at JAGM.

Thanks for taking the time to read this, feel free to reach out and ask any questions you have, I'm available at vpfinance.a@engsoc.uwaterloo.ca!

VP Student Life Update

OLAMIDE OLATUNBOSUN
VP STUDENT LIFE

Happy Winter Term everyone! I am Olamide Olatunbosun (Mide for short), I am a 2A Chemical Engineering student, and I am honoured to be serving as your VP Student Life! As someone who has always been involved in numerous extra-curriculars from a young age, I see the importance of having some sort of outlet to have fun, meet new people, and escape the classroom. It is very easy as engineering students to be so focused on school; I hope to promote a welcoming environment where students can feel comfortable and, well, enjoy their lives as students.

I have a handful of goals to accomplish this goal and improve the Engineering Society

as a whole. A large focus this term will be on acquiring event feedback from both attendees and directors; the data gathered will be used to answer questions like "What demographics are we reaching?" and "What events are worth running in the future?", as well as improving internal documentation. Speaking of data, my predecessor Emma Swarney ran a big data survey and discovered that workshops are the most highly requested EngSoc service. However, from term to term, we struggle to find people to run said workshops. I am looking into ways we can combat this, whether it be changing the way we look for workshop directors or reaching out to student design teams or other WUSA clubs.

Now on the front-end event side, I have a few initiatives I have been/will be rolling

out. First is the implementation of a dance directorship. As someone who has danced their whole life, I realized I did not have an easy outlet to continue that in university and decided to use my role to create one. Every Wednesday from 8pm-9pm and Thursday from 9pm-10pm in PAC Studio 2, I have two lovely directors teaching students various styles of dance, so feel free to drop in! Another idea I had was the creation of the EngSoc Photo Competition. This term alone, we have well over 140 events running, meaning there are a plethora of chances for photo opportunities. Whether it be an image from the EngSoc Flickr page or one from your phone, post a photo from an EngSoc event from that month on Instagram, tag @uwengsoc, and you may win some cool engineering swag! Lastly, I

am working with the Director of Interschool Events at Conestoga College to build a better relationship between our schools and plan an event together. The start of this term has been a bit of a whirlwind, but I will reach out in the coming weeks and hopefully have something planned for you all to enjoy!

As mentioned before, I'm excited and truly honoured to be your VPSL. EngSoc has truly changed my life and I want our society to positively impact as many students as possible so they can call it a home like I can. If you have any questions about events, my goals, or any ideas/feedback, feel free to email me at vpstudentlife.a@engsoc.uwaterloo.ca or stop by the Orifice (CPH 1327) if you want to chat. Good luck on your midterms, and have a great rest of the term!

A Message From Your President

DELAINEY LINDSTROM-HUMPHRIES
A-SOC PRESIDENT

Happy Winter term everyone! My name is Delaine and I am proud to be your A-Soc President. With this being my first on-term of my presidency I am looking forward to rolling out some new initiatives and continuing to steer the direction of the Engineering Society in a way to continuously better the Engineering student experience. To encourage a broader

sense of community within engineering EngSoc is running a term long SCUNT, there are 5 purple hard hats on the line and a broad list of tasks so find a group of friends and check out bit.ly/W20SCUNT for the full list and description. My mental health advocacy team and I are also currently working on advocating for mental health training for staff and professors in the engineering faculty and would like to hear your feedback! If you can please take two minutes to fill out this

survey we will be able to better understand your needs which will improve our overall advocacy efforts: bit.ly/UWEngMH

With the changes that have been made to Waterloo's opt-out system, I am also working on developing a fee payment verification plan to help EngSoc respond on the front end so that we can continue to support the back-end operations that make everything we do possible. Many people only see the front end of what EngSoc is up to such as different

events we are running, services available in the EngSoc office, or enjoying a visit to the CnD. However, none of this would be possible without all the behind the scenes work that our amazing volunteers and staff put in. I hope that you are having a groovy start to your term and if you ever want to talk, have any feedback for EngSoc, or are looking for more ways to get involved in different parts of the community please reach out! You can reach me at president.a@engsoc.uwaterloo.ca or stop by the EngSoc Office in CPH 1327.

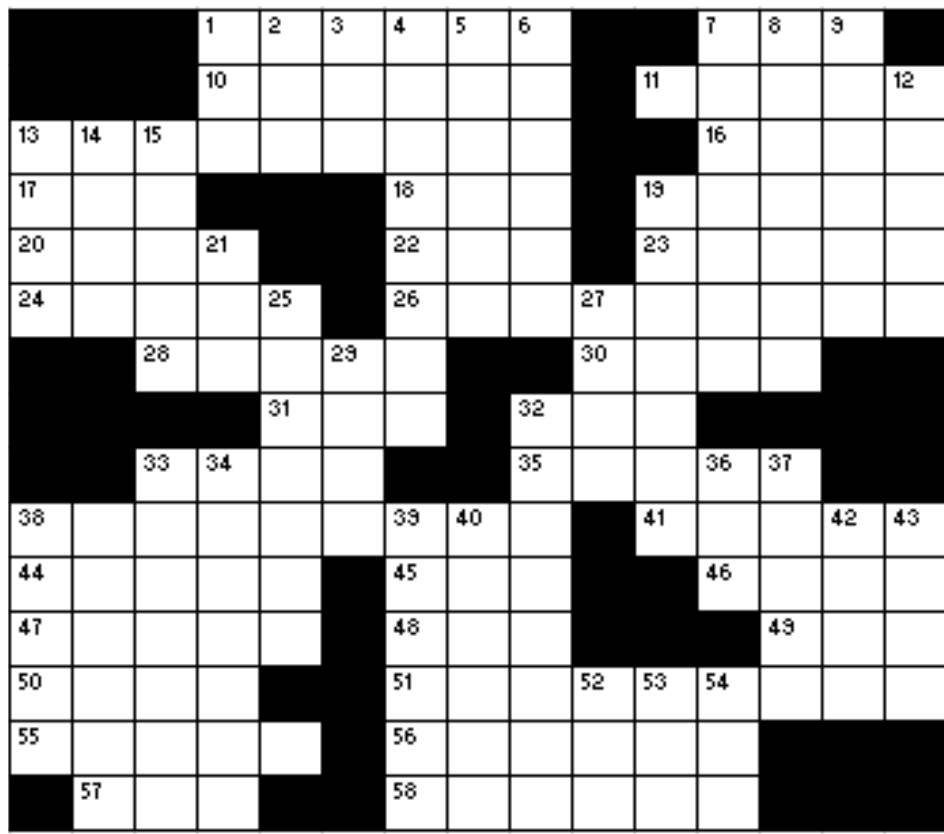
Upcoming Events Calendar

Wednesday Feb 12	Thursday Feb 13	Friday Feb 14	Saturday Feb 15	Sunday Feb 16	Monday Feb 17	Tuesday Feb 18	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca/events/calendar
Engiqueers 6:00 PM - 9:00 PM Dance - Combo 1 (Jazz) 8:00 PM - 9:00 PM	Career Fair 11:00 AM - 3:00 PM Destress Events - Playdough 11:00 AM - 2:00 PM NSBE Black Study Hall 5:30 PM - 8:30 PM Dance - Hip Hop 9:00 PM - 10:00 PM	Valentine's Day Photos with the Tool 1:45 PM - 3:00 PM					
Wednesday Feb 19	Thursday Feb 20	Friday Feb 21	Saturday Feb 22	Sunday Feb 23	Monday Feb 24	Tuesday Feb 25	
Patch Design Contest Submissions Close		Patch Design Voting Opens					

The Iron Crossword

UWaterloo

KIRSTEN EHLERS
2N BIOMEDICAL



ACROSS

- 1: Long board supported by a single pivot located at midpoint
- 7: A direction of motion that is pursued by a Sub
- 10: To obstruct or prevent something
- 11: The most beloved creature on campus
- 13: The home of your local trolls
- 16: A unit for measuring of satisfaction
- 17: Who can rotate their head up to 270 degrees?
- 18: Content management system by Adobe
- 19: Florida has more of these than you could "Ever" imagine
- 20: Home of the Lockheed-Martin F-22 Raptor
- 22: A knife brand popular amongst Japanese chefs
- 23: Co-leader of the Princess Alliance in the eponymous television series
- 24: Filipino dish made with taro leaves, chili, and coconut milk
- 26: SLC/PAC _____
- 28: No. 925
- 30: A rug by any other name

- 31: Ancient flute of the Middle East
- 32: The medical professional you should see when you have group-project-itis
- 33: _____ GEOG.
- 35: What's left when you burn something
- 38: A quality of a strong horse housing market
- 41: Fate of complimentary refreshments at employer events
- 44: An air traffic controller from Jakarta may be part of this association
- 45: Protein that regulates calcium transport
- 46: Less cooked than medium
- 47: What a bad work term leaves on your resume
- 48: An orthopaedic association that's close to home
- 49: A ritish cruise line
- 50: A sound canine mind in a sound canine body
- 51: UW Students' beverage of choice
- 55: A loser with two O's
- 56: An arctic bear with no dipole
- 57: Nickname for Italian wine grape
- 58: To move, with the intention of regrowth

DOWN

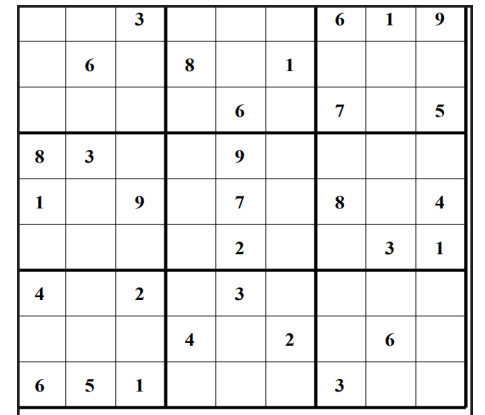
- 1: You have to say this when talking directly to a male EdCom
- 2: Text slang for eat me
- 3: Document communicating environment impact of a product's lifecycle (acronym)
- 4: Quiet and rather dull
- 5: You bid someone this when you are saying a fancy goodbye
- 6: A moist cleaning tool
- 7: Second person singular of "would"
- 8: automatic optical inspection, automatic optical test, plural
- 9: San _____, district of San Diego
- 12: 364 BC these people capture Olympia
- 13: What you lose when you work at a Petroleum co-op
- 14: The student union
- 15: A house where you will find overpriced student housing
- 19: A whipped filling of chocolate and cream
- 21: Acronym for university in Fiji
- 25: A type pf violet dye that may or may not lead to cancer
- 27: One of the twelve minor prophets
- 29: Dante's nine circles
- 32: Work done where one is hired and paid one day at a time
- 33: Traveller by swim
- 34: x-coordinate
- 36: Organ for hearing
- 37: The beginning
- 38: Species of agave in southern Mexico
- 39: Atoms of different elements with same number of nucleons
- 40: A group of people
- 42: Warmest of the great lakes
- 43: Check the Editorial
- 52: butyrolactone
- 53: People from laos
- 54: Acronym for designated law enforcement team for first response

Sudoku

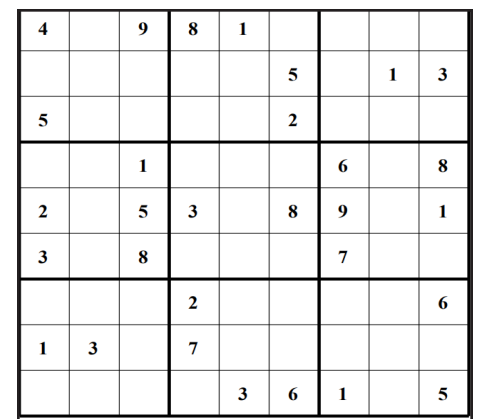
#2020-02-12

AKANKSHA JOSHI
2A BIOMEDICAL

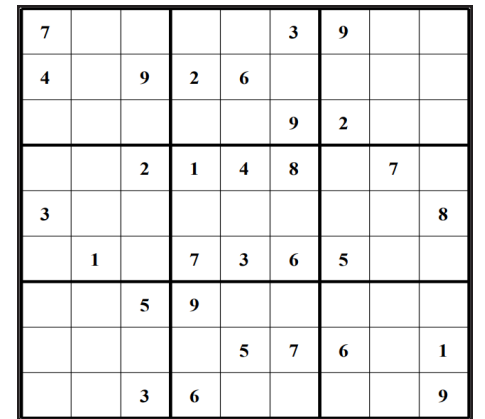
Easy



Medium



Hard



Solutions for previous crosswords can be found on *The Iron Warrior's* website at iwarrior.uwaterloo.ca/distractions.

THE IRON INQUISITION
Ella Walsh, 1B Biomedical

"What three things would you buy to freak out a cashier?"



"Coke bottle, 10 packs of Mentos, a screw."
Jay B., 1B Computer Science



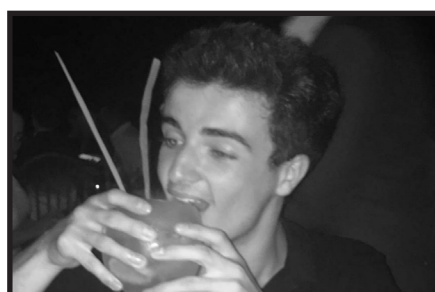
"Surgical mask, garden clippers, antifreeze."
Antonio P., 1B Chemical Engineering



"Bread, olives, peanut butter"
Nick Z., 1B Mechatronics



"300 ft of metal chains (because that's weird), 3 gallons of hand sanitizer, and rat poison."
Duru U., 1B Biomedical



"Axe, gasoline, lighter"
Ayden C., 1B Biomedical



"Butcher's knife, big bird costume, garbage bags"
Adam C., 1B Biomedical