

THE BASIS SCOTTSDALE GAZETTE

A PREVIEW OF THE 2019 SENIOR RESEARCH PROJECTS

BY CALEB KING



Pictured: Jacob Jiang at his research site placement, Churchill Commercial Capital

The beginning of February marked the end of the seniors' year at BASIS, as they left for their independent research projects. It can be hard for many students to keep up with the blogs associated with these projects, as they can seem overly complex. After all, why would you bother reading a blog you're not interested in? Well, luckily for our readers, there are many underrated senior projects every year that explore the life of a student in an engaging way. From budgeting finances to managing sleep schedules, here are some of this year's senior projects that might impact your life as a student in an exciting way!

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SAVE THE DATE

March 11-15: Spring Break	April 3-5: Mock AP Exams
March 17: St. Patrick's Day	April 19: Good Friday
April 1: April Fools' Day	April 21: Easter Sunday

FEATURED

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First up, we have *Money Mismanagement 101*, a budgeting project in which Jacob Jiang seeks to understand the influence of cost when students are choosing a school to attend. When considering colleges costing over \$30,000 a year, money becomes a bigger concern than education for some families, yet many schools don't have finance classes to prepare students for real world budgeting. Luckily, BASIS does! Jacob will be working with Mr. Johnson to educate upper schoolers on the power of money in education. Jacob's project can be found at moneymismanagementwithjacob.wordpress.com.

Second is a project that is applicable to all students, *Not So Great Expectations* by Michelle Koo. Michelle is investigating Imposter Syndrome in students, which is the feeling of being worse at a class than you are. In a high achieving school like BASIS, almost everyone doubts about whether they are doing as well as others, and Michelle wants to find out why and how to fix it. While Michelle won't be at school like Jacob, you can still follow her research discoveries and progress at researchwithmichelle.wordpress.com.

Finally, a blog that even the adults at BASIS can relate to, *Slumber Studies* by Dean Milner, is a project concerned with the link between a healthy sleep schedule and good grades. I'm sure that, at some point, you have had to decide whether to get some extra sleep or stay up and study. Dean seeks to conclude which option is actually best for your performance, bringing a conclusive answer to the question, "sleep or study?" You can follow his progress at deansresearch.wordpress.com.

Each of these research projects tackles a fundamental aspect of life, and any reader who wants an interesting blog to read should be following these projects. Budgeting, overcoming insecurities, and getting enough sleep are problems that every student faces, and the conclusions these seniors reach may change your habits and beliefs for the better.



CLUB SPOTLIGHT: MEDICAL VOLUNTEERS' CLUB

BY POOJA KOLLA

The BASIS Scottsdale Medical Volunteers Club is one of the many organizations at BASIS that gives students an opportunity to have an impact both inside and outside of the school community. Through volunteerism and supply drives, members of the club give back to the medical community beyond the traditional hospital setting, creating awareness within the community for various medical charities such as Project C.U.R.E., a charity that donates medical supplies to hospitals in third-world countries, and Ryan House, a charity committed to helping children diagnosed with Down syndrome.

Additionally, the club hosts a range of speakers involved in the medical field, from undergraduate students on a pre-medical track to medical students to even seasoned physicians who own their own practice, to discuss how their experiences in volunteerism over the course of their education influenced them to pursue a career in the medical field. The culmination of these experiences helps club members to learn the importance

of volunteering and also develop leadership skills. All of the club's members are passionate about volunteerism and actively contribute to the wellbeing of their community, both as a group and as individuals.



Pictured: Student leaders of the Medical Volunteers' Club [From left: Lulu Bi (11), Armaan Dwivedi (11), Maya Balakrishnan (10), Mrs. Martinez, Pooja Kolla (11), and Sruthi Murala (11)]

BASIS BRILLIANCE AT THE SCIENCE FAIR

BY VIRAJ MEHTA & TANAY VEDARTHAM

Alcohol level detectors, innovative blood analyzers, and apps that can detect cancer were some of the many outstanding projects BASIS students presented at this year's school science fair, held on Saturday, March 2nd. An annual tradition since the early days of BASIS, the science fair showcases the innovative thinking of our bright students. Its winners have gone on to see success at AzSEF, the Arizona Science and Engineering Fair, placing in their category and even winning special awards. With another science fair in the books, let's take a look at the amazing projects and moments that made this year's science fair special.

Since Mr. Carey, BASIS's Upper School biology teacher, was the advisor for the senior section of the science fair, we decided to ask him some questions about his take on this year's event.

How was serving as the primary advisor of the upper school science fair for the first time?

I had fun working with the high school students to prepare their projects and get them ready. There is a lot of paperwork involved, and I was not quite ready for that, but I think it was a good experience and I will be more prepared for next year.

What types of projects interested you most?

Obviously, I am biased towards the biology projects, but the physics and chemistry projects are very interesting, too. My favorite projects stayed true to the scientific method and had really great data to analyze. I really enjoy learning something new from each project.

Since machine learning has grown in popularity, do you think our students can still generate with original projects?

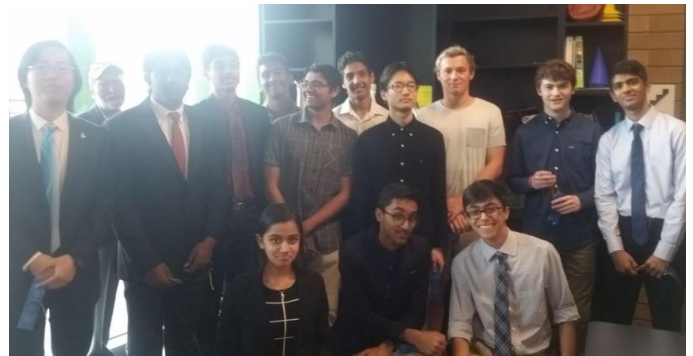
It's funny you ask that, because, when I was collecting all the proposals at the beginning of the year, I was worried about that very problem. The students did some really interesting work. So, yes, I think there are a lot of different ways to apply machine learning in many different fields.

What advice to you have for first-time science fair participants?

Have a good plan to start with, follow the scientific method, and document everything, because you never know what information may be useful later on.

This year's fair had a plethora of exciting projects that could have significant impacts. Roshan Pillai (10th grade) was the Senior Division grand prize winner; Pillai created an app called SAVR that uses algorithms to assess cardiovascular disease risk and overall health. Additionally, our very own Tanay Vedartham (10th grade) will be representing our school at AzSEF with his cost-effective digital stethoscope that monitors the likelihood of having lung disease, alongside the other high school winners from categories varying from Systems Software to Biomedical Sciences. Winning projects ranged from a new blood analyzing method requiring only the prick of a finger to new methods for analyzing breathing patterns in stethoscopes.

The bright minds showcased at the fair demonstrate the forward thinking of BASIS students. We pride ourselves on innovation, and the advancements we make directly contribute to bettering the world. As students, we may feel restricted working under strict guidelines, but the science fair can serve as an outlet for many to express their true passions and create something we can all benefit from. Whether it be in science or in the arts, BASIS students have the potential to accomplish great things. It is just a matter of finding the right resources to make it happen.



Pictured: High-school division winners from the 2019 BASIS Science Fair

Photo Credits: Tanay Vedartham

NEWS

THE LOSS OF A MATHEMATICAL GENIUS

BY ZANDER HILL

On January 11, 2019, Sir Michael Atiyah passed away at age 89. Though unknown to many, Atiyah contributed greatly to mathematics. He received both the Fields Medal, known as the unofficial “Nobel Prize for mathematics,” and the Abel Prize, an annual prize for outstanding mathematicians. His work spanned a variety of topics, including Topological K-Theory, the Atiyah-Singer Index Theorem, and the Riemann Hypothesis, three contributions which will not be forgotten.

His early efforts included the development of Topological K-Theory, a powerful tool in modern mathematics. Motivated by Grothendieck’s proof of the Grothendieck-Riemann-Roch Theorem, Atiyah worked with mathematician Friedrich Hirzebruch to generate new techniques, forming a stronger version of the standard cohomology theory. The cohomology theory acts as a way to associate algebraic structures with topological spaces. Instead of directly connecting an algebraic structure to a topological space, K-Theory connects them to the vector bundles of the topological space. This strengthening proved new results and simplified previous proofs, leading to the publication of his most well-known theorem, the Atiyah-Singer Index Theorem.

The Atiyah-Singer Index Theorem states that, if D is an elliptic differential operator between two vector bundles E and F over a compact manifold X , then the analytic index of D is equal to the topological index of D . Super simple, right? Even though the theorem’s statement may be difficult to digest, the applications are easier to understand. Physicists are often interested in the solutions to sets of differential equations, and even though finding exact solutions in a general case is still an problem, his Index Theorem allows us to figure out how many independent solutions there are. This has helped string theorists reconcile some incongruities between their models and reality, and explained the lack of a certain particle some of our quantum physics models have predicted. These results in both math and theoretical physics clearly exhibit the theorem’s importance.

However, Atiyah’s later works found much less success. For instance, he presented a proof in October 2016 which mathematicians considered flawed, even after a revision in May, 2018 that fixed some major issues. His proof for the Riemann Hypothesis was met with even less success. Atiyah, through use of his so-called “Todd Function,” claimed that a counterexample to the Riemann Hypothesis forces the Zeta Function to be a constant, contradicting its known properties and thus, showing that said counterexample cannot exist. Such a proof is relatively standard in mathematics, called a “Proof by Contradiction,” but that’s not where the issue lies. Instead, the problem arose in the properties that Atiyah attributes to the Todd Function, and it’s unclear whether he was talking about a function on the complex plane or an operator applied to other functions. It’s unknown whether the solution can be fixed, but now that Atiyah is gone, we may never understand the inner workings of his proof.

Unlike many mathematicians, Atiyah’s work in mathematics spanned many fields. And, though not everything he did was groundbreaking, he was always willing to try new problems without fear of failure. And perhaps that is his greatest lesson: giving up is the only real failure.



Pictured above: The late Sir Michael Atiyah
Source: Isaac Newton Institute for Mathematical Sciences

SCOOTING INTO CAPITALISM

BY MALIA KUO

Lime-green bikes and black electric scooters are proliferating across the country, including here in Arizona. These vehicles are courtesy of Lime and Bird, the most prominent brands in the new age of dockless public transportation. Often compared to Lyft or Uber, these ride-hailing innovations have become some of the fastest growing startups in recent years, with Bird celebrating a net worth of \$2 billion after just one year of operations.

The billion-dollar idea is actually quite simple: with just a smartphone app, a user can find a Bird scooter in their vicinity, ride it around for a small fee, and leave the scooter anywhere at the journey's end. Seems pretty ingenious, right? The concept plays on the idea of ease that is so prevalent in American culture – why lug a bike or scooter around when just a dollar can grant access to one nearby? This theme of streamlined productivity is a distinguishing factor in our society, enamored with the high-tech, fast-paced lifestyle advertised in all forms of media. Additionally, these transportation companies appeal to our innate desire to save money. If your desired destination is only three blocks away, why pay for human capital through Uber or taxis when a scooter or bike can be rented for much less? However, consumers are still paying for a scooter when they could have easily walked and paid no money at all, tying back to the current obsession with ease in any form possible.



Source: The Business Journals

Yet, the key factor that Bird and Lime understand is that consumers willingly pay for certain unnecessary luxuries because these scooters appear to be connected to the future, with their sleek monochromatic and motorized design, a method of transportation our ancestors would have dreamed of, mimicking the sci-fi fantasies that we love in literature and movies. By playing into both of these underlying desires (saving money and connecting to the future), Lime and Bird have created a new product that has easily become a prevalent and popular hit.

This mindset raises more unfortunate questions about the economic consequences of these bikes and scooters. Just as in the past, any innovation easily overtakes a previously monopolized industry. This cycle repeats for any new product, and the scooter business is no different. Take, for instance, the evolution of movie rental. From having to purchase movies to renting from Blockbuster to downloading on iTunes, the industry has changed rapidly. Each day, seemingly new renditions of products lose popularity as even newer, streamlined services become more readily available to the public.

A similar idea is present in the creation of this new electric scooter craze, as this idea of accessible transportation seems like a less controversial form of driverless vehicles. In this world of ease and efficiency, eliminating the necessity of human capital appears to be the next obvious step.

However, unlike Uber or Lyft, which have effectively monopolized car transportation in cities, Lime and Bird face difficulty in maintaining the same command, as dockless scooters and bikes require little actual capital besides proliferation. These companies don't need thousands of human workers, and therefore, since the main distinguishing factor is the method of transportation, either through scooter, bike, or other means, more companies like Ofo or Mobike are turning up on the streets of American cities, each arguing for a different dockless transportation method.

Furthermore, with businesses like Uber or Lyft, consumers have to worry about the reliability and safety of their drivers. While Lime and Bird likely still consider the safety of their vehicles, consumers don't really differentiate between the types of transportation. Just as with Uber and Lyft, Arizona has begun putting rules in place about these scooters and bikes, stating that they cannot be left anywhere in the path of pedestrians, must be picked up if not being used, and can even be fined by the state government.

This new age of easy transportation and diminishing need for human capital reveals the not-so-startling view of humanity's future. In a world where saving money is a necessity and striving for futuristic ideals is common, the new companies who create a cheaper alternative to basic transportation will easily shape both the economy and path for the future.

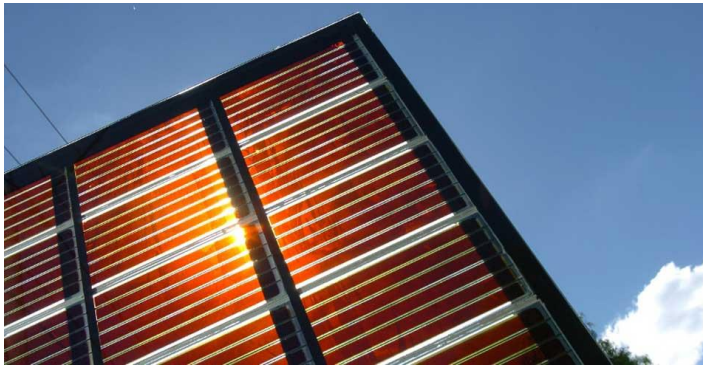
SCIENCE & TECH

IS A 19TH CENTURY MINERAL THE FUTURE OF ENERGY?

BY ZAK HORI

Solar power can be fairly expensive and inaccessible, as it is usually installed on a large scale in densely populated, wealthy areas. However, recent developments indicate that perovskite technology can revolutionize the energy industry, allowing more people access to sustainable electricity.

While perovskite, a common mineral, has been known to scientists since the 19th century, more recently, they discovered that the mineral can be used to create solar cells. This discovery means that solar power companies may be able to use perovskite to not only reduce the prices of their solar panels, but also distribute their technology across the globe.



Source: Energy Source and Distribution

Perovskite is a mineral with the same crystalline structure as calcium titanium oxide. The mineral can be broken down into three parts: an elemental lead, an organic component, and halides. Though 93% of all perovskite lies in the inaccessible lower mantle of the earth, the mineral is still abundant on Earth's surface; significant deposits have been found in rocky coves in Arkansas and in limestone residue near Mount Vesuvius in Italy. Different metal perovskites act like semiconductors, meaning they're able to pass through an electric charge.

So, how do perovskite solar cells differ from traditional solar cells? Conventional silicon cells must be processed at temperatures above 1,400 degrees Celsius, while perovskite cells can be processed at temperatures as low as 100 degrees, using inexpensive equipment. In addition, while silicon cells need to be aligned perfectly to be used, perovskite solar cells can be layered onto surfaces, making the production process much easier. However, there are some downsides, including perovskite's fragile structure.

To maximize the utility of perovskite, Olga Malinkiewicz, a Polish physicist, developed a process that coated foil with perovskites in 2013. Upon her discovery, Malinkiewicz co-founded Saule Technologies, which has a modern laboratory capable of producing up to 180,000 square meters of solar panels per year. Although the solar power market may not see major changes this year, perovskite solar energy could eventually become much more common and accessible as Saule Technologies continues production.

Along with Saule Technologies, other companies, such as Swedish construction group Skanska, are trying to make their own perovskite developments. Currently, Skanska is testing the architectural benefits of using perovskite, due to the mineral's flexibility and color tints.

As scientists continue to learn about the new uses of this relatively common material, we may see perovskite greatly reduce the harms of fossil fuels, replacing them with cheaper, accessible, and more sustainable solar energy.

FOOD

ESTHER EATS: BERRY DIVINE

BY ESTHER LI-CHEN

There are many healthy food options that can help us better our bodies, one of which is acai. Acai (pronounced ah-sigh-EE) is a dark purple superfood with many healthy components, including antioxidants, fiber, healthy fats, and calcium. Recently, new restaurants have started focusing their menus on the popular superfood. One such shop is Berry Divine, a healthy restaurant that makes both acai bowls and smoothies.

Berry Divine is open every day from 8:30 a.m. to 10 p.m. on East Curry Road and North Scottsdale Road in Tempe, which is a fairly long drive relative to BASIS. Inside the restaurant, surfboards hang from the ceilings, and stylized pictures of fruit line the walls, creating a tropical atmosphere. This theme is juxtaposed by the bright neon "Berry Divine" sign, as well as the gray metal seats and black tables. Surprisingly, this amalgamation of different styles was quite pleasing to the eye.



Pictures by Esther Li-Chen

The menu offers smoothies, acai bowls, and coffee; however, the coffee selection is limited, which is understandable, as coffee isn't the restaurant's main product. Meanwhile, the selection for acai bowls and smoothies is more diverse, with both regular and large sizes. Additionally, Berry Divine uniquely offers acai in both its traditional form, which is similar to a thick smoothie, and in a soft-serve variety. According to Berry Divine, the traditional form is acai purée blended with

frozen fruits and a liquid, while the soft serve form is acai purée, lemon, beet, and apple juice mixed with a bit of cane sugar and frozen in a soft-serve machine. The names of the bowls and smoothies are also quite unique, with some alluding to the restaurant's original location, Sedona, like with the Red Rock bowl.

When I visited Berry Divine, I ordered the Brazilian bowl and the Sedona bowl. The Brazilian Bowl blends acai, coconut water, mango, strawberry, and banana in the soft-serve form, and is topped with hemp seed granola, mango, strawberry, kiwi and honey. The Sedona bowl blends açai, almond milk, strawberry, and banana in the traditional form, and is topped with hemp seed granola, strawberry, banana and honey. Both were delicious, and the fruit and acai complemented each other well. However, the traditional and soft-serve version were practically indistinguishable, with no significant difference in texture or taste. The honey added on top clumped the acai together, resulting in an odd texture. There was also more granola at the bottom of the bowl, which made the mixture harder to stir, but also allowed space for more fruit and acai.



The Sedona Bowl

The prices of the bowls for Berry Divine were slightly steep, especially considering its far location. The soft serve bowls, which cost around \$8-8.50 for the regular size and \$9.50-10 for the large size, are cheaper than the

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traditional bowls, which cost around \$9-9.50 for regular and \$11-11.50 for large. Considering the similar texture and taste of the traditional and soft serve, I'd recommend getting the cheaper soft serve acai bowl. And, for those who crave more than what is offered on the menu, toppings like agave nectar and almonds and blend-ins like almond butter and antioxidant blend are 75 cents each.

The delicious acai bowls from Berry Divine are somewhat pricey, and the lack of a Scottsdale location is slightly disheartening because of the long drive required to get there. However, the new take on an already satiating and healthy superfood may be worth the time for those who aspire to eat well.



A RECIPE FOR NOWRUZ

Thursday, March 21st marks the occasion of the spring celebration of the new year, also known as the Persian New Year, or Nowruz, the most important festival of the year in Iran. Various traditional dishes are associated with this joyous celebration; here's one recipe you can make at home to join in the fun!

Chickpea Cookies (Nan-e nokhodchi)

Ingredients:

1 cup canola oil (may substitute unsalted, clarified butter)
1 1/2 cups confectioners' sugar
2 to 3 teaspoons ground cardamom
1/4 teaspoon fine sea salt
1 tablespoon rose water
3 1/2 to 4 1/2 cups triple-sifted, roasted chickpea flour
1/4 cup slivered raw pistachios, for garnish

Instructions:

1. Combine oil, sugar, cardamom to taste, salt and rose water in a bowl; beat on low speed with a stand mixer or hand-held electric mixer, then increase speed to medium and beat for about 5 minutes until light and creamy.
2. Add 3 1/2 cups of the chickpea flour and beat on low speed for 1 minute; add the remaining chickpea flour until the dough is no longer sticky.
3. Line a rimmed baking sheet with parchment paper, then dust with some of the remaining chickpea flour. Place the dough on the dusted surface, and knead until the dough is soft and pliable.

BY PARISA YAZDANI

4. Flatten dough and shape it into a 3/4-inch-thick square. Cover the dough with a large sheet of plastic wrap, and gently use a rolling pin to even out the surface of the dough. Refrigerate for 1 to 24 hours; this will make the dough easier to cut.

5. Preheat oven to 300 degrees. Line 2 baking sheets with parchment paper.

6. Unwrap the dough. Use a 1 1/4-inch cloverleaf-shaped cookie cutter to form 35 to 40 cookies, and space them apart on the baking sheets. Insert a pistachio sliver into the center of each cookie.

7. Bake one sheet at a time for 25 to 30 minutes or until the cookie bottoms are a golden color. Transfer the cookies onto a wire rack to cool.

8. When the cookies on the first sheet have thoroughly cooled, use a spatula to transfer them to a storage container.



Source: Washington Post

ENTERTAINMENT

THE RIO CARNAVAL

BY SANAYA NICHANI

Rio de Janeiro's annual Carnival started this year on March 1st, with eight days of non-stop samba dancing, partying, and parading. Carnival is the largest carnival in the world, with about two million people from all over the globe celebrating in the parade-filled streets of Rio de Janeiro. Though the event began as a celebration of cuisine, the dancing showcased in this tradition has become a key factor cementing it in Brazilian culture.

Originally, the Carnival of Rio de Janeiro was a food festival, held every year in recognition of Lent, the Christian period of shunning alcohol, meat, and pleasure. It is believed that "*Carnaval*" was derived from the Latin phrase "*carne vale*", which translates to "farewell to the meat". The unique characteristics of Carnival come from a blend of culture: the Portuguese brought the festival from Europe, and the Africans added their rhythm, music, and choreography. The reasons and cultural aspects for the Carnival haven't changed, but the focus of the festival has shifted from food to samba.

The Samba Competition is the highlight of the parade, with schools from all over the world coming to compete over the eight-day period. This tradition was created in 1917 out of a global appreciation for music and dancing. All the contenders perform in the Sambadrome, a massive stadium that can seat more than 80,000 people at a time. Forty judges pick one school, the Access Group, to start the parade on Friday and Saturday, and twelve schools, the Special Groups, are chosen to compete on the runway on Sunday and Monday. Six schools are then eliminated, and the final six stay to battle it out for the champion title on Saturday, after the whole carnival.



The schools practice for years, perfecting their mesmerizing dances before coming to the stage. Full of exquisite performances, this samba competition is a thrilling experience, regardless of whether you are competing for the championship title or watching from the stands.

The Carnival's dancing, the spotlight of the show and the reason for its popularity, has attracted the world's attention for more than a century. The masses of tourists from all over the world come to see the many samba schools show off their breath-taking choreography. The Carnival is truly an event you can't miss!



Pictured: Samba dancers from the Sao Paulo Samba School during Carnival 2018

Source: Portal da RMC

THE LEGO MOVIE 2: THE SECOND PART REVIEW

BY SAM ENNIS

In 2014, *The Lego Movie* took the world by storm. What was expected to be more a ninety-minute commercial than a true movie became one of the best animated films in years by connecting innovative visual effects with deeper themes like government control and familial relationships. After five years of waiting, a sequel to the movie has arrived. But does it capture the same effect that the first one had? No, it certainly does not.

From the very beginning, it became clear to me that the movie did not share the same wit as the first. Along with that, I immediately figured out exactly where the movie was going in terms of its plot. This predictability is a total departure from the original movie's originality. The pacing also took a major hit. In the first movie, jokes flew at the audience, but, unfortunately, in *The Lego Movie*'s most recent iteration, most of the jokes did not land, making the movie painfully slow. Even the kids in the theater were dead silent for most of the movie. Moreover, the themes

warning of governmental control and praising creativity that helped cement the first movie as a true classic were unfortunately lacking in the recent release, which did not even attempt to tackle heavier subject matter.

Despite these problems, the animation was still spectacular and unique, saving this movie from true unoriginality. Nevertheless, even the spectacular voice acting of Chris Pratt and the rest of the cast could not make up for the subpar plot and poor pacing.

The Lego Movie 2 overall ended up being a bland and uninteresting animated movie. This movie feels like an insult to what came before, reminding viewers of the lifeless bricks instead of a lively film.

Rating: 3/10



Source: IMDB

WHAT TO WATCH: UPCOMING MOVIE AND T.V. SEQUELS

BY KOBE SIMON

As we transition into spring, television and film connoisseurs are looking forward to a plethora of sequels and spin-offs of hit television shows and movies coming out in the coming months. Here are a few of the most anticipated upcoming releases.

T.V. Shows

Stranger Things 3

Stranger Things 3 seems to be following the footsteps of its first season with another summer release, on July 4th, 2019. While fans may have to wait a while until the next installment of the hit show is available for binge-watching pleasure, fans still have plenty of other means of satisfying their *Stranger Things* cravings for the time being, from the recently-released prequel novel *Suspicious Minds*, which explores Eleven's backstory, to the series of comic books exploring Will's time in the "upside-down." There is plenty more to come as well, with a *Stranger Things 3* video game and another prequel novel exploring the origins of Chief Hopper both in the works. Though Netflix has already released a short title-tease trailer highlighting the episode titles of the upcoming season, fans have yet to receive an official trailer, surprising many who expected one during this year's Super Bowl.

Game of Thrones Season 8

Already stirring attention from fans with a clever, albeit strange, *Game of Thrones*/Bud Light crossover commercial, which some claim was the best part of the Super Bowl, this fantasy drama show's eighth and final season is set to premiere on April 14th, 2019. Despite the central series coming to a close, five unnamed spin-off T.V. shows are already planned, featuring the work of writers such as Max Borenstein and Jane Goldman. One of the upcoming spin-off series is rumored to be titled 'The Long Night,' starring Naomi Watts, but otherwise, little is known about these future releases.

Movies

Ghostbusters 3

Ghostbusters 3, to be released in July, 2020, will be a direct sequel to the first two *Ghostbusters* films, ignoring 2016's box office flop. It has even been confirmed that the film will star several of the original film's cast members, including Bill Murray, who will reprise the iconic role of Dr. Peter Venkman. The announcement of the film came as a shock to many fans, with a surprise trailer dropping early

last month. Little else is known about the movie, other than it will feature a teenage boy and girl as the main characters.

X-men: Dark Phoenix

Many suspect that, due to Marvel's upcoming acquisition of the Fox property *X-Men*, *X-Men: Dark Phoenix* will be the final *X-Men* movie with the series' current cast, as Disney may wipe the slate clean with a new cast. This being said, a horror-based *X-men* spin-off is already on the way. Titled *The New Mutants*, starring *Stranger Things*' Charlie Heaton, the film has been pushed back many times. Originally set to release on February 22, 2019, it was pushed back to April 13, 2019, and then August 2, 2019. It has recently been rumored to be pushed back to a September, 2019 release, but this has yet to be confirmed. *X-Men: Dark Phoenix* will star Sophie Turner.

It: Chapter Two

2017's *It* was a smashing success, leading to millions of mini-Pennywises donning the clown's iconic costume for Halloween that year. The directors of the series have taken a rather unique approach in creating the series, dividing one novel into two 'chapters' centered around the first and latter halves of the novel. *It: Chapter Two* will center around the 'Loser's Club' characters as adults, but several actors from the 2017 adaption, such as *Stranger Things*' Finn Wolfhard, will reprise their roles for the purpose of flashbacks. Stephen King has plenty of other movies adapted from his books on the slate for 2019, from *Doctor Sleep* (a sequel to 1980's cult classic *The Shining*) to a remake of *Pet Semetary*.



Game of Thrones Season 8 Promotional Image
Source: Indie Wire

RESIDENT EVIL 2 REVIEW – A SCARY, GOREY DELIGHT

BY SAM ENNIS

Back in 1998, *Resident Evil 2* was released, setting a high standard for survival horror video games, seen both then and now as the best game in the genre. While the market for zombie video games has become oversaturated, in 2019, Capcom decided to release a remake of this sequel for the current generation, with gorgeous new graphics and a refreshing gameplay style.

Capcom changed the game from a series of fixed camera views to a third person point of view with free camera control, a choice that led to a more fluid style of gameplay and more intense situations, with adrenaline-pumping scenarios filled with almost tangible zombies. Throughout the game, the player will find himself or herself to be short on supplies, and will not be able to fight through the vast number of infected monsters, making the player feel truly helpless and tense, which contributes to the game's impressive impact.

Along with updated gameplay, the graphics have been massively improved. The realistic rain and lighting set the suspenseful mood perfectly, and the animations of the characters look phenomenal. But arguably the best visual improvement is the zombies. The gore and sound effects have vastly improved, making them even scarier and more disturbing. If one were to put the original and this one side by side, the visual improvements would make it look like these are two different games.

Story-wise, the player can choose to play as Leon Kennedy, a rookie cop on his first day, or Claire Redfield, a college girl looking for her brother. Once the player completes the storyline for one, the second scenario for the other character will be available, with new locations to visit and characters to meet. Each story takes about eight hours to complete, ensuring the player gets his or her money's worth. However, both of the stories aren't completely different. Most of the puzzles are similar, leading to some instances of repetitive gameplay, which can be somewhat tedious.

Overall, playing *Resident Evil 2* is an amazing experience. It offers tense and scary moments, keeping the player constantly aware of his or her surroundings. With the updated gameplay style, the game shows no age, welcoming all gamers to enjoy this horrifying game.

Rating: 9/10



Source: IGN

WHAT IS YOUR LEVEL OF PANIC? BY ANGIE WONG

Guess what? March 9th is Panic Day! This “holiday” was invented on the Internet, and it is exactly what it sounds like: a day to panic. Every day may be a “panic day” at BASIS, but in honor of the unofficial holiday, here is a quiz to test your level of hysteria based on how you would respond to certain pressure.

- You have a test next period that you haven’t studied for. What do you do?
 - Accept failure. (0 pts)
 - Run around screaming. (2 pts)
 - Cram five minutes before. (3 pts)
 - Suddenly contract the plague and leave school for a while. (1 pt)
- How much time do you spend on homework each night?
 - 1-2 hours. (1 pt)
 - 7-9 hours. (0 pts)
 - “Haha that’s funny.” (2 pts)
 - “Wait, we have homework?” (3 pts)
- You’re assigned a huge project that is due in a month. What is your plan to finish it?
 - Work on it a little at a time to gradually finish it. (0 pts)
 - Stress out about it for a month but not actually do work. (1 pt)
 - “I’ll do it the morning of. It’s fine.” (3 pts)
 - Procrastinate until the last week. (2 pts)
- Someone comes toward you to attack you with a stick (a very menacing stick). What do you do?
 - Become petrified. (3 pts)
 - Run away. (2 pts)
 - Enter fight mode. (0 pts)
 - Attempt to reason with the attacker. (1 pts)
- All the sudden, a fire alarm starts to go off. How do you react?
 - Stop, drop, and roll. (2 pts)
 - Find the nearest exit and, well, exit. (0 pts)
 - Accept your fate and lie on the floor. (1 pts)
 - Run around trying to find water to put it out. (3 pts)
- In the middle of the night, you hear loud banging in your house. For the purpose of this example, you can assume your family is asleep, so it is most likely someone trying to break in. What do you do?
 - Call the police. (0 pts)
 - Ignore it. (2 pts)
 - Proceed to run around and wake up the entire household. (3 pts)
 - Get the convenient flamethrower you have in your room and wait for the robber. (1 pt)
- When you are driving, you see a police car behind you. What do you do?
 - In your panic, swerve back and forth between the lanes and hit a few cacti. (3 pts)
 - Continue driving as you would normally. (0 pts)
 - Slam on the brakes and pull over. (2 pts)
 - Become extremely conscious of all your maneuvers. (1 pt)
- You have an upcoming doctor’s appointment that you’ve been avoiding for years. What do you do?
 - Diagnose yourself. (1 pt)
 - In the week prior to the visit, start doing an excessive amount of healthy things. (3 pts)
 - Ignore the appointment. (2 pts)
 - Shove down the fear and go. (0 pts)
- Your pet sitting for your friend, and all of a sudden you don’t see the dog anywhere. What do you do?
 - Walk around the neighborhood and call its name. (0 pts)
 - Call your friend. (1 pt)
 - Call 911. (2 pts)
 - It’s in the house somewhere... probably. (3 pts)
- You’re walking to your car to leave school when you realize you don’t have your car keys. What do you do?
 - Hitchhike. (1 pt)
 - Run around in a panic. (3 pts)
 - Use a rock to break the car window, then meddle with the wires so you can hijack your way home. (2 pts)
 - Look for your keys and ask around. If you don’t find them, call someone for help. (0 pts)

Results

(0-7 pts) The Calm, Cool, and Collected: Congratulations, you’re a really calm and composed person! You take sudden, stressful situations without much reaction and are able to think clearly; you perform well under pressure and probably are a great performer.

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(8-15 pts) The Internal Screamer: Though it might look like you are composed on the outside, your panic is slowly but surely building up. Like the name suggests, you internally scream 24/7 yet manage to hide your stress and anxiety. However, this makes you good at thinking on your feet and analyzing the situation. You just gotta fake it till you make it.

(16-23 pts) The External Screamer: In contrast to the internal screamers, you actually scream. Your level of controlled panic is less than that of the internal screamer, since it is harder for you to look calm on the outside. You're the person that waits to do homework until the last minute and builds up a lot of stress during that time. However, it is fun to let out a good scream every so often, and scare some small children while you're at it.

(24-30 pts) The Hypertensive Blood Pressure: You are at the maximum panic level. You forget you even had homework and go into extreme hyper panic mode when told about it. Your adrenaline spikes if anyone startles you or brings any sort of instability in your life. This means you're always on edge, which can possibly be good if you're in a fight, but isn't really great for school life. Maybe do some homework every so often. The constant stream of cortisol leads to health problems.



EVOLUTION OF MARVEL

BY SANAYA NICHANI

On March 8th, the long-awaited *Captain Marvel* finally came to theaters, broadcasting a new heroine to the world. Though the iconic character was actually created in 1967 by Marvel Comics, she wasn't very well known until last year, when the movie's trailer debuted. This new release makes one wonder, "How far has Marvel come?"

Most people think Marvel's start began with *Iron Man* in 2008, but Marvel's cinematic history has actually spanned almost three decades. In 1986, Marvel came out with its first feature length film - *Howard the Duck*. Unfortunately, this sci-fi movie became known as one of the worst movies in digital history, yielding a deficit of \$15 million from its \$30 million budget. Since this flop, a few key aspects of Marvel have changed, including the quality and diversity of their films.

Marvel's attention to detail heightens the quality of its movies: the impressive effort that goes into maintaining this vibrant, complex universe culminates in cinematic pieces that break the box office and impress critics. However, even Marvel makes mistakes, and it is undisputed that Marvel has created a few bad films. Luckily, Marvel has established a stable reputation and has such a big fanbase that even their poorest films have done fairly well. One example is *Thor: The Dark World*; despite a 64% rating on Rotten Tomatoes; the film reaped a profit of \$86 million.

One frequent criticism of Marvel was the lack of diversity in its films. With the game changer, *Black Panther*, Marvel finally featured a black superhero and a largely African cast, as well as an African director. At last, people of color felt represented on the big screen – not just as a supporting character, but as a prominent hero with a nuanced plot. The film's diversity helped it become a smash hit, amassing over \$1 billion at the global box office and scoring a Best Picture Oscar nomination.

Besides race, Marvel has also been criticized for its lack of female representation. With Marvel's 21st and newest movie, *Captain Marvel*, the company is making significant developments in its diversity. This movie will be the first female-led Marvel movie, indicating that the company may continue to make strides in representing people with a variety of backgrounds and identities.

As it continues to evolve and improve upon previous releases, Marvel is certain to maintain its dedicated fanbase and witness much success. Their endless variety of superhero films, from the laugh-out-loud *Spiderman: Homecoming* to the thriller *Blade*, and even the laughable, ridiculous *Howard the Duck* are sure to keep you on the edge of your seat. And that really is a marvel!

WORD SEARCH

S D I H C R O R A S J N E V J I S C B L
 U Y A X U T Q I F Q C X O S N V D P A A
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AMARYLLIS

CARNATION

DAFFODIL

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LARKSPUR

LAVENDER

LILY

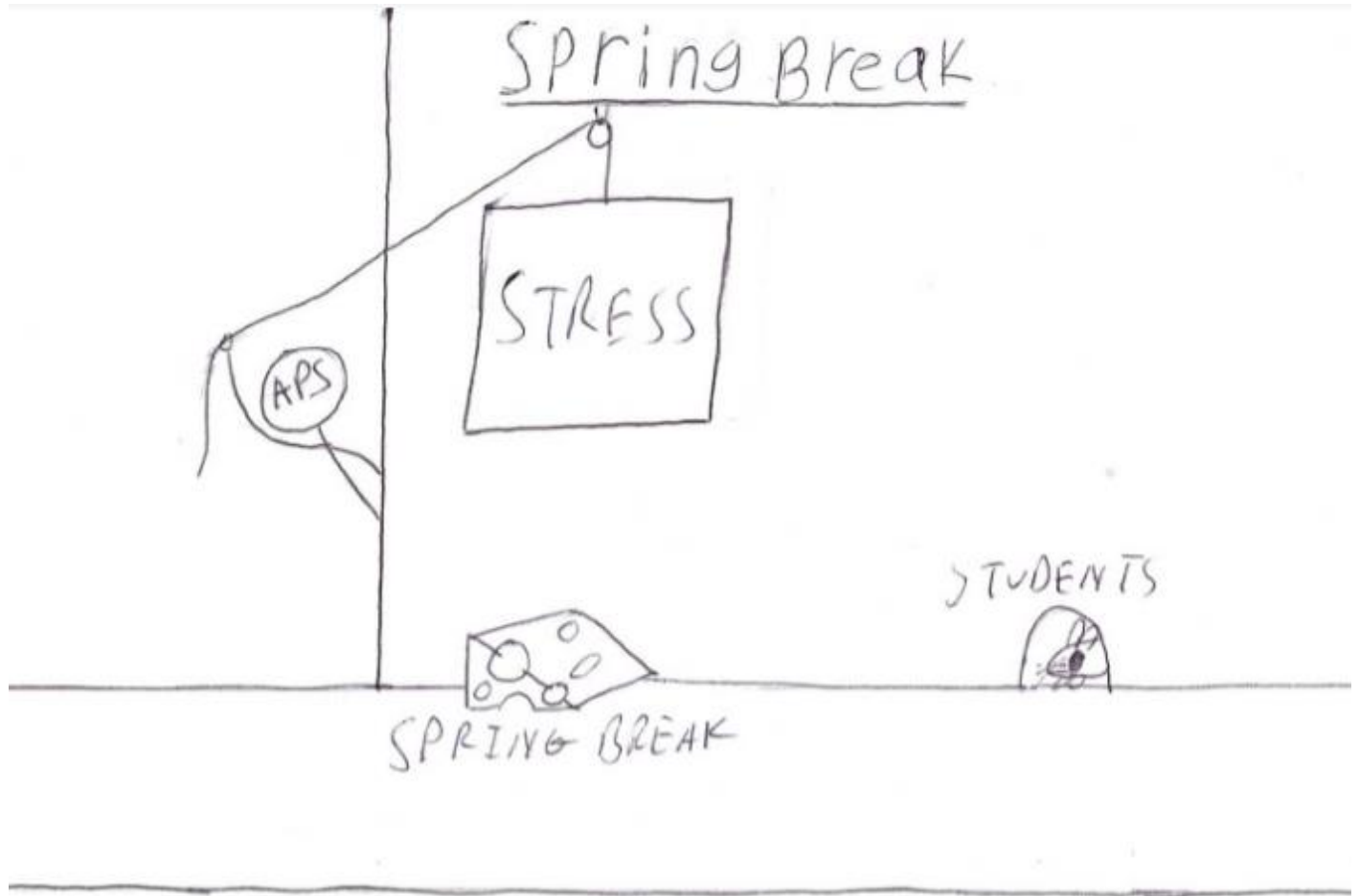
ORCHIDS

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