

THE HEBREW ACADEMY TIMES

HATS OFF TO OUR COMMUNITIES!
Term 1 of the 2024-2025 School Year

**A Newspaper FOR THE PEOPLE, BY THE PEOPLE of
Hebrew Academy of Tampa Bay**

We ROAR with LION PRIDE!



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Physical or Chemical?

By Moshe Chaim Dubrowski

What is the difference between a chemical change and a physical change of an object, such as a log?

To understand the difference between a physical and chemical change we must first understand what an atom is. An atom is the smallest stage an object can reach. If you were to break a rock over and over again, eventually you would just be left with an atom that couldn't be broken any smaller. Everything is made of atoms. Your shoes, bed, sink, and couch are made of atoms. In fact, you are made of atoms. To get a rough idea of how many atoms are in an object, there are 43 quintillion atoms in one grain of sand. Some people even believe there are more atoms in one grain of sand than all grains of sand in the entire world. Wow, that's a lot!

Now that you can understand what atoms are, you can start to understand the difference between chemical and physical changes.

A physical change is when an object changes without the atoms inside actually changing. An example of a physical change would be when a log snaps. When a log snaps the atoms inside are not changing they're just being separated from the other atoms. If you want a simple way to find if an object is having a physical change simply see if it can be put back to its original form. For example, when a log snaps you are still able to put the log back together with glue therefore a log snapping is a physical change.



A chemical change is when an object and the atoms in that object undergo an irreversible change. An example of a chemical change would be when a log burns, because when a log burns the atoms inside the log change from wood to ashes. And therefore cannot return to its original form. When an object changes forms and can't be brought back to its original form you know it is having a chemical change. A simple way to determine if an object withstood a chemical change is to notice if the change is irreversible. If it is, then the object has experienced a chemical change.



This is the difference between a chemical change and a physical change.

There are many physical and chemical changes in Judaism. Lighting Shabbat or Yom Tov candles are specific examples of a chemical change our community witnesses. Wiping the 5 adasim on the ground on Hashanah Raba would be a good example of a physical change in Judaism. I feel so grateful to be part of Hashem, and to be granted the chances to do his Mitzvos.

The Burial of Pompeii

By Avigayil Gondelman

A natural disaster happened in Pompeii, an ancient Roman city, in 79 AD. Mount Vesuvius is a volcano known for being extremely violent. The city was buried with magma, and destroyed after this historic explosion.

Pompeii was first settled in the 7th century BC by the Oscan people. Most of the people living in the city were farmers. The rich volcanic soil provided amazing harvests and an abundance of wealth. There was an abundance of both grapes and olives which are two of the seven fruits of Israel and served daily to the Roman king and his guests.

About 10,000 to 20,000 people lived in the city. Pompeii was the capital of Rome because of its bountiful farmlands and popularity. Wealthy civilians had extravagant summer homes in Pompeii and would enjoy the glamorous city during the summer. An amphitheater stood in Pompeii for the gladiator games. Plays and concerts were attended at different theaters throughout the city.

According to the text from Ducksters.com Mount Vesuvius erupted 1.5 million tons of ash and rock shooting out per second, on August 24, 79 AD. This volcano was terrorizing as it covered the entire city. Some were able to escape, but about 16,000 men, women, and children died. The ground shook leading up to the eruption. When the smoke arrived, the Romans didn't know what to do. Civilians were confused about what was happening, so when the lava came they perished.

Part of why Mount Vesuvius is so savage is because of its magmatic source. The volcano sits above two tectonic plates: the African tunic and the Eurasian plate. This forms a "slab window" which is a portion of a lower plate unconnected by the upper part, producing an effect that easily melts the rock known as Andesite which has a 50-60% silica content. High amounts of silica create "sticky" magma which traps gas and water to generate unpredictable and dangerous explosive eruptions.

The city was buried and gone. Pompeii was rediscovered in 1700 when archaeologists began uncovering the city. Many historical items were discovered. Archaeologists found objects like gold bowls, silver, silverware, and so much more. A substantial amount of what we know about the Roman empire is pulled from the Pompeii artifacts. The preserved land and bodies of Pompeii can be seen when visiting.

At the end of the day, Pompeii was an ancient Roman city where a horrendous natural disaster occurred. The city was beautiful and extravagant, however it was lost as numerous people met their end. In the 1900s the volcano erupted once more causing us to realize Mount Vesuvius is still active. Will another disaster create devastation?



Earth Got a New Moon

By Emet Howitt-Vallone

On September 29th, 2024 earth Received a gift from space, A NEW MOON! This moon is actually a small asteroid that fell into Earth's orbit while passing by. This asteroid will stay in Earth's orbit until the 25th of November. If you tried looking for the new moon on September 29th you probably didn't see anything because the "new moon" is really an asteroid about the size of a city bus. It is impossible to see with the naked eye. One would need a professional-grade telescope to see this asteroid.

The asteroid comes from the Arjuna asteroid belt which is a group of asteroids 93 million miles away. When asteroids approach Earth, they frequently either fly by the planet or hit it and leave a streak in the sky or a dent in Earth's crust. However, in more infrequent cases they are captured by Earth's gravitational pull, becoming a mini-moon, Though this second moon will only be in Earth's orbit for about two months, it'll stay near the planet for a few more months, making its closest approach in January 2025. It's expected to make a return to the planet's orbit in 2055.

The new moon is similar to the one we have right now except it is much smaller. The moon's diameter is 2,159.1 miles, That is over 2000 miles difference in size. The Asteroid was named 2024 PT5 by ATLAS South Africa, Sutherland on August 7, 2024.

Hashem has a reason for everything. What do you think the reason for him sending us this mini-moon was?



Currency in other Countries

By Leah Batya Konigsberg

All around the world, there are different kinds of currency. This article will only discuss the three countries of Mexico, Canada and The United States.



The United States has very different money compared to the rest of the world. The faces of various U.S. presidents appear on our bills and in the U.S. all the money is green. These two facts are what set us apart from other nations. There are similarities with other countries because paper is used to print money worldwide.

Mexico does not call their currency dollars, they call it pesos. This word might just be the Spanish word for a dollar. In Mexico, the money/pesos do not have the value people might think it has. For example, five American dollars equals about one hundred pesos. Pesos are all different colors some of which are orange or blue



In Canada, currency is called dollars in English or the French word devise. Unlike the American currency, the one-dollar bill is not used; they only have a one-dollar coin which is called “loonies”.



Surprisingly they also use a two-dollar coin called a “toonie”. Other Canadian coins; the quarter, penny, dime, and nickel have the same value as the U.S. coins with the same name. In Canada, all the bills look different example the one hundred dollar bill is orange but the fifty dollar bill is red. All of the faces featured on Canadian paper money were influential leaders.

UNDER THE SEA

By Maggie K.

ONE OF THE COMMON ACTIVITIES IN MEXICO IS SNORKELING. THIS IS BECAUSE MEXICO HAS THE SECOND-LARGEST CORAL REEF LOCATED ON THE COAST OF THE MEXICAN CARIBBEAN SEA. WHEN GOING SNORKELING PEOPLE CAN SEE SOME INTERESTING PLANTS AND ANIMALS.

FIRST OF ALL, WHAT IS SNORKELING? IN SUMMARY, IT IS SWIMMING IN WATER WHILE LOOKING AT ANIMALS, BUT LET'S GO MORE IN-DEPTH OF WHAT IT IS.

SNORKELING IS SWIMMING FACE DOWN IN A BODY OF WATER AND BREATHING THROUGH WHAT'S CALLED A "SNORKEL" WHICH IS A TUBE EXTENDING ABOVE THE WATER ALLOWING THE PERSON TO BREATHE THROUGH IT WHILE WEARING THE CONNECTED GOGGLES. THIS EXPERIENCE IS UNIQUE BECAUSE HUMANS HAVE THE OPPORTUNITY TO DISCOVER UNDERWATER LIFE IN A NATURAL SETTING WITHOUT THE COMPLICATED EQUIPMENT AND TRAINING REQUIRED FOR SCUBA DIVING.

DEPENDING ON WHAT ANIMALS A PERSON LIKES THEY MAY OR MAY NOT FIND SNORKELING FUN. IF THE PERSON LIKES SEA LIFE OR EVEN JUST ALL ANIMALS THEY MIGHT LOVE THIS ACTIVITY. COMMON THINGS SEEN ARE SMALL FISH, CORAL, MOLLUSKS, AND STARFISH. IF LUCKY, THINGS LIKE NURSE SHARKS, MANATEES, WHALE SHARKS, BULL SHARKS, OR DOLPHINS.

BEING A WATER SPORT, SNORKELING WIDELY DEPENDS ON THE WEATHER. WHAT IS THE BEST WEATHER FOR SNORKELING? WELL, SCIENTISTS DO NOT SUGGEST GOING IF THERE ARE HIGH WINDS BECAUSE IT CREATES WAVES ON THE WATER WHICH MAKES IT UNCOMFORTABLE. THE HIGHEST AMOUNT OF WIND THERE SHOULD BE IS 10 MPH, BUT IT'S BETTER IF WIND SPEED IS LOWER. THERE SHOULD ALSO BE A LOW TIDE. SUNNY OR CLOUDY WEATHER WILL BOTH PROVIDE A FANTASTIC EXPERIENCE.

Hop into Mexico City!

By Chana Lipszyc

Life in Mexico City, Mexico, and Tampa, FL are very different. In my opinion, Mexico City is diverse, vibrant, and dynamic. On the other hand, I find Tampa to be easy-going, low-key and calm except for downtown. Kids would not care to visit either one. Before you read the next paragraph please guess which sport is the most popular in Mexico City!



If you thought soccer was the answer then you are correct! Did you know soccer in Mexico is called association football? Mexican Primera División (Liga MX) is one of the top soccer leagues globally. In Mexico City, football became a professional men's sport in 1943.



Mexico provides a welcoming Jewish community that is home to 40,000- 50,000 Jews. There are over 20 shuls just in Mexico City. Actually, there is a Chabad in Mexico, how cool is that? Mexican Jewish Collectors are Ashkenazi, Sephardi, and Levantine Jews. Mexico City's Jewish communities are considered one of the biggest in the world.

Schools require students to wear school uniforms just like in Tampa., FL. Students usually take 5 or 6 classes a day, with two short breaks in mid-morning and another in the afternoon. School starts between 7:30 and 8:00 and ends around 1:30 or 2:30. Summer break is approximately six weeks which is 42 days.



Now you know so much about Mexico City you can go to their land, try their schools, go to their shuls and play soccer (AKA association football.) Here is a fun fact: The average cost someone would spread in a day in Tampa and Mexico City is actually the same, around \$180. When you want to visit Mexico City you will know the things you have read here. I went to Mexico City when I was younger for a wedding and it was amazing. The waiters and the food were excellent. You should definitely go to Mexico City!



Simplifying Fractions



What is simplifying fractions?

By Chani Rivkin

Simplifying fractions is reducing a fraction to its simplest form and converting improper fractions to mixed numbers. Discover all the facts, skills required, and history of simplifying fractions in this article. If you don't know your steps to simplifying fractions, your math test won't be so great. Wait, don't leave yet! I'm sure if you keep reading you will do a lot better on that fraction assessment.

For a great result, you must be able to find:

- common denominators
- common multiples
- a common multiple that can be evenly divided by the numerator and denominator

Fun facts: The Egyptians invented simplifying fractions. The easiest way to start simplifying fractions is to separately write the factors of the numerator and denominator. Then determine the highest common factor of both the numerator and denominator. Next, divide the numerator and the denominator by the highest common factor. Lastly, make sure your answer is in the simplest form.

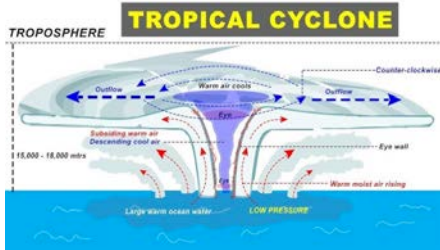
Why do we need to know how to simplify fractions in daily life: Baking, cooking, creating and building all require measuring items like oil, water, flour, cement, glue, and so much more. Guess what! Simplifying fractions is vital in the process.

Now that you know how fractions are simplified you won't be stressed while you bake a cake, create a display board, or build a sukkah. I hope, no, I know I will see some great fraction scores.

Natural Disasters

By Sholom Rubashkin

Did you know hurricanes can last up to two weeks?



Hurricanes develop when warm, moist air over an ocean rises, and then is replaced by cooler air. The cooler air will then heat up and start to rise. Over time, this cycle causes huge storm clouds to form. These storm clouds will begin to rotate with the spin of the Earth forming an organized system. If there is enough warm water, the cycle will continue and the storm clouds and wind speeds will grow causing a hurricane.

Hurricanes can cause significant damage by creating floods, high wind speeds, and storm surges. Destruction also happens when hurricanes can cause tornadoes. Hurricanes generally form in the tropics where the oceans are heated and bring devastation to the lives of many. We are thankful to Hashem for protection throughout the summer.

Categories of Violent Storms:

Tropical cyclones are categorized according to the speed of sustained winds.

- Tropical Depression - 38 mph or less
- Tropical Storm - 39 to 73 mph

Hurricanes are broken into 5 categories.

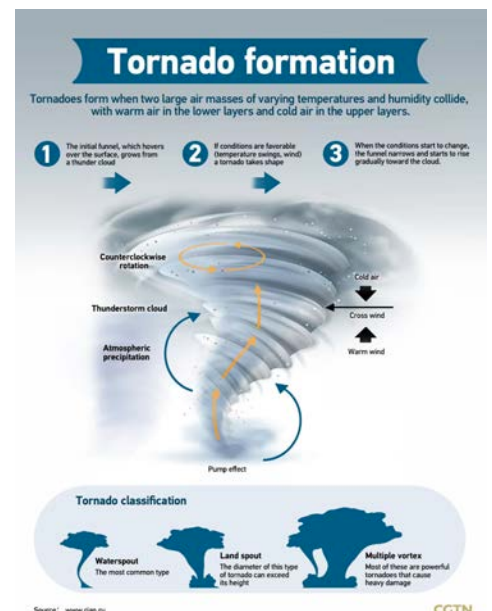
- Category 1 - 74 to 95 mph
- Category 2 - 96 to 110 mph
- Category 3 - 111 to 129 mph
- Category 4 - 130 to 156 mph
- Category 5 - 157 or higher mph

How and where do tornadoes form?

Tornadoes develop when a very tall cloud called cumulonimbus clouds form. There are more conditions for a tornado to occur. Tornadoes don't appear everywhere; they mostly spawn in Tornado Alley located in parts of South Dakota, Texas, Kansas, Nebraska, and Oklahoma.

According to ducksters.com, the following is how a tornado forms:

1. begins with cumulonimbus clouds
2. clouds swirl because of a change in the wind direction
3. high winds cause the swirl to increase in speed
4. rising air pushes up and flips the tornado over
5. a wind funnel sucks up warm air from the ground
6. the funnel grows taller and touches the ground
7. touching land is the last step of formation



THE TYPES OF Tornadoes



Supercell Tornadoes

Rotating updrafts are key to the development of supercell storms and eventually tornadoes. Supercell Tornadoes are the most common and also the most dangerous type of Tornado. Wind shear, when winds at different levels above the ground blow at different speeds and directions, causes a column of air to start rotating. Once warm moist air starts flowing into the rotating column from the ground level, a tornado can form.



Non-Supercell Tornadoes

LANDSPOUTS

Originating at ground level, a Landspout Tornado is a narrow funnel of condensation that forms during the growth stage of a cumulus thunderstorm. Landspouts are smaller and weaker than Supercell Tornadoes. Landspouts, as a result, are seldom ever detected by Weather Radar Systems. Landspout much like waterspouts (below), usually take the form of a rope-like tube.



WATERSPOUTS

Waterspouts originate over bodies of water and often the ocean. While some waterspouts are strong and tornadic in nature, most are much weaker and caused by different atmospheric dynamics.



Other Types of Circulating Winds

DUST DEVILS

A dust devil is a strong, well-formed, short-lived whirlwind, ranging from small (half a metre wide to a few metres tall) to large (more than 10 metres wide and more than 1 kilometer tall). Mostly harmless they do sometimes cause damage.



GUSTNAOES

A gustnado is a short-lived, shallow and surface-based vortex which forms within the downburst emanating from a thunderstorm. Gustnadoes form along the gust front of a developing cumulus thunderstorm.



FIRE WHIRLS / FIRENAOES

A Fire Whirl is a whirlwind induced by a fire and often composed of flame or ash. These occur when intense rising heat and turbulent wind conditions combine to form whirling bodies of air, flames and smoke.



CREDITS: NOAA | WIKIPEDIA | SANW

Visit our History of Tornadoes in South Africa Page
www.sawx.co.za | www.tornadoes.co.za

Here are the different types of tornadoes.

Tornadoes can cause a great amount of damage. Tornadoes are one of the most devastating natural disasters causing millions of dollars in needed repairs. Different categories of tornadoes are labeled with EFs (enhanced fujita). EF-0 can reach speeds from 65-85 mph which causes the least damage. EF-1 can reach wind speeds from 86-110 mph which is still weak. EF-2 can accelerate from 111-135 mph resulting in some damage. EF-3 wind speeds of 136 -165 with some homes and structures damaged. EF-4 with high wind speeds from 166-200 mph nevertheless causing damage to most homes and structures. EF-5 - 200 mph and higher can result in extreme damage and loss of lives. Hashem knows dangerous weather causes a lot of damage however it is always for the good.

Natural disasters happen around the world throughout the year. The devastation of these catastrophes changes lives. With advances in technology weather can be tracked, and approaching storms can be predicted. We hope Hashem will help us develop additional technology to keep us safe.

EF Rating	Wind Speeds	Expected Damage
EF-0	65-85 mph	"Minor" damage: shingles blown off or parts of a roof peeled off, damage to gutters/siding, branches broken off trees, shallow rooted trees toppled.
EF-1	86-110 mph	"Moderate" damage: more significant roof damage, windows broken, exterior doors damaged or lost, mobile homes overturned or badly damaged.
EF-2	111-135 mph	"Considerable" damage: roofs torn off well constructed homes, homes shifted off their foundation, mobile homes completely destroyed, large trees snapped or uprooted, cars can be tossed.
EF-3	136-165 mph	"Severe" damage: entire stories of well constructed homes destroyed, significant damage done to large buildings, homes with weak foundations can be blown away, trees begin to lose their bark.
EF-4	166-200 mph	"Extreme" damage: Well constructed homes are leveled, cars are thrown significant distances, top story exterior walls of masonry buildings would likely collapse.
EF-5	> 200 mph	"Massive/incredible" damage: Well constructed homes are swept away, steel-reinforced concrete structures are critically damaged, high-rise buildings sustain severe structural damage, trees are usually completely debarked, stripped of branches and snapped.

Why School Is So Important

By Maya Sasser

Most believe young people study to one day become successful adults. When students strengthen their knowledge, they process a strong, beneficial education that creates more career choices.



People need to learn how to practice skills, think deeply, use resources, research, and problem-solve before being hired for a job. For example: if someone wanted to work in a warehouse there are multiple abilities that person must show. Math, such as calculations and problem-solving, are required to be an employee who does their job correctly. People who work with animals have the qualifications to know what animals eat and which biome the animal comes from. Rabbis learn all of the davinings and how to

answer Judaic questions. The Rabbi would also need to know all of the Parshas. The Rabbis handle the money to pay the bills and build shulls.

Teachers who care to impact students must have a strong grasp of how to help students learn the information they will have for life. Being a science professor calls for explaining many different areas of science in ways that students can comprehend. On the other hand, a love for history would be necessary to be an interesting history teacher. An amazing teacher of English can efficiently answer any questions students may have and provide a meaningful lesson.

But where do outstanding adults master those things? AT SCHOOL! I am thankful to Hashem for Hebrew Academy Tampa Bay.

Magnificent Mathematics

By Goldy Schwartz

Who discovered math?

Different people discovered different types of math over the centuries. We can guess that before math was written down, people were counting stones and sticks.

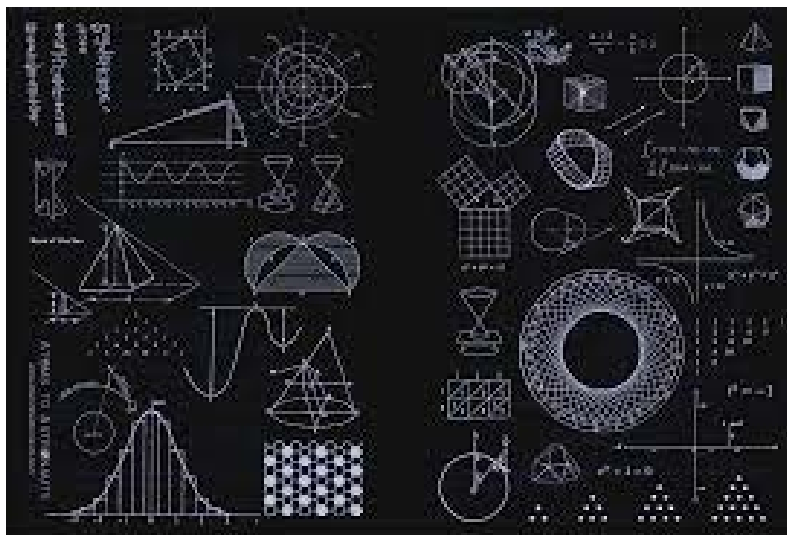
The first record we have in the history of math being used is by the Sumerians. The Sumerians figured out a numbering system based on 60 which is still used today to measure time (clock) and degrees in a circle.

The Pythagorean Theorem is a well-known geometric theorem ($a^2 + b^2 = c^2$). This formula was actually used a long time before Pythagoras. Babylonians recorded it on four tablets around 1900 - 1600 BCE. However, Pythagoras got all the credit.

Archimedes was a Sicilian mathematician and inventor from the second century BCE. He came up with Mechanical Theorems. His most famous work is "Method Concerning Mechanical Theorems", which explains the process of understanding math.

Other important mathematicians include Isaac Newton, who gave us the Three Laws of Motion, and Ada Lovelace, who discovered the Analytical Engine (computer) can be programmed to do math. She is called the first computer programmer.

I enjoy learning math in school and helping my mom measure when baking. I'm thankful Hashem has helped me learn so much math.



Edited by Morah Chaya and Ms Stacy

Basketball History

By Shimi Wachsman

Basketball started in the year 1891. It was invented by James Naismith in Springfield Massachusetts. The way it was discovered was by throwing a soccerball in to a basket. The first game of basketball was on January 20, 1892 with only nine players.

Over the years basketball became very popular across the U.S.A. In 1936 basketball was included in the olympics in Berlin which makes them a global sport. The NBA was created in 1946 and they did it by merging the BAA and the NBL.

The 1980's and 90's were some of the biggest years of the NBA, probably because of the rivalry between Larry Bird and Magic Johnson. In those years of the NBA a new star of the NBA came. A new star named Michael Jordan who might be the greatest player of all time. Today the sport of basketball continues to be one of the greatest sports.

MLB Baseball

By Shneur Yarmush

Baseball has been a favorite American sport for a long time. The nine innings of a baseball game give fans plenty of time for families to enjoy themselves.

A baseball game usually takes nine innings which is about 2.5 hours. One inning means both teams get their turn at bat. Each batter is allowed one out. An out is when one player might pop out, line out, ground out, or strike out. A baseball game could take more than nine innings if the teams are tied at the end of the ninth inning. The longest MLB game ever was 26 innings. The longest baseball game ever (not MLB) was 33 innings. Runs are scored when a batter touches all four bases. As you can see, baseball is a really long game. The longest took three whole days!

The way the playoffs and wildcard rounds work is as follows: there are two leagues the National League and the American League, and they start just by playing. After 162 games there is a wildcard round. The worst division winner in each league and the next three best teams all play in the wildcard round. The team with the title of winning the most World Series is the Yankees, having won 27 fall classics. The Dodgers have the honor of winning the 2024 World Series against the Yankees.

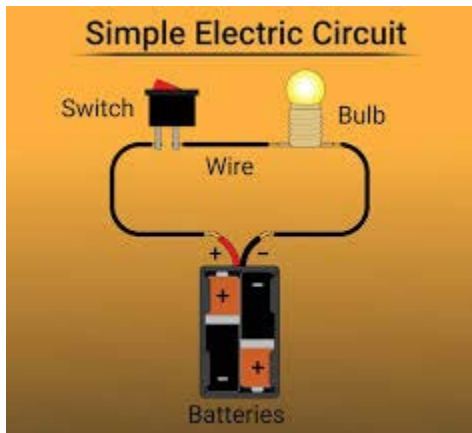
The first game of MLB was on May 14, 1871. The Yankees are a really good team according to many fans, but the last time they won a World Series was way back in 2009. The Boston Americans have the title of winning the first World Series ever. The Seattle Mariners are the only team in history that hasn't appeared in a World Series. A lot of teams were not able to win a World Series.

It is amazing that G-D could make infinite things including baseball which I really like. As you can see baseball is just an exciting sport.



Technological Thoughts: Trustworthy or Terrorizing?

By Dovid Yarmush



In this example, electricity travels from the switch to the battery and then to the bulb. This sounds like a very long process but it happens in a few milliseconds. This technology that produces light has only been around for about 200 years. We see here how some basic daily life tools are an advancement in technology.

People don't realize how much of their everyday life is technology. Without many people working together, life just wouldn't be the same; Computers, the internet, cars, phones, traffic lights, cameras, airplanes, and many more were invented by teams of scientists. Traveling on animals and ships is no longer our only option. Meeting with someone doesn't have to be in person because of progress made in the field of technology.



Technology has many old inventions that are important and still used today. One example would be the compass. The compass has been around for more than 2,000 years and yet it is still used today. The needle always points north so people know which direction to travel. Another old and important invention is the lightbulb. The lightbulb was invented in 1879 by Thomas Edison. And now, 145 years later, lightbulbs are very common and can be found in almost every home today.



Some inventions need to be used properly or it can be disastrous. Self-driving cars and the internet are two examples. If people aren't careful when using self-driving cars accidents are likely to happen.



Some might ask how the internet can be dangerous. Important personal information can be stolen by criminals called hackers. Sometimes hackers can go into games and chat with innocent people until they become “friends”. Then the lawbreakers get them to hand over information they regret sharing later. To prevent this from happening do not chat with anyone on games.

Some technological inventions save lives. One example would be a ventilator. A ventilator is a machine that helps people breathe. Often someone will be put on a ventilator for a few days after surgeries. Many other machines help people with their physical problems. Other examples are ophthalmoscopes (a device used to look at the back of people's eyes), electric wheelchairs, and hearing aids.



Technology has become a life-changing creation. Many inventions begin as a help for people, but unfortunately, some technological inventions are used in the wrong way. This can sadly hurt people. Hashem created innovations to assist people, not hurt people. We need to learn to ALWAYS use it appropriately, and be thankful that Hashem provides these tools to benefit us.