

SEEKING SCIENCE

by STEM Action Teen Institution



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GMO SUPERFOODS

**CORONAVIRUS
MUTATION**

MATHEMATICS

AND MORE...

A MONTHLY NEWSLETTER
ON ALL THINGS STEM

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GMO Superfoods

by Joshua H.

For this week's Seeking Science Article, I decided to write about GMO foods. GMO foods, also known as, genetically modified organisms, is a food that has had their genetic material modified. GMO's can make certain foods differ in size and it can help a food fight against bacteria. GMO's implant beneficial genes into foods. GMO's can make food survive longer, have a better appearance, and have better nutrition. However, there are many cons against GMO foods. Genetically modified foods can deliver more chemicals inside of the food which can lead to food poisoning. In addition, GMO foods have been known to increase weight gain and lead to organ disruption. Bringing a GMO food to the crop market can be both expensive and time consuming.

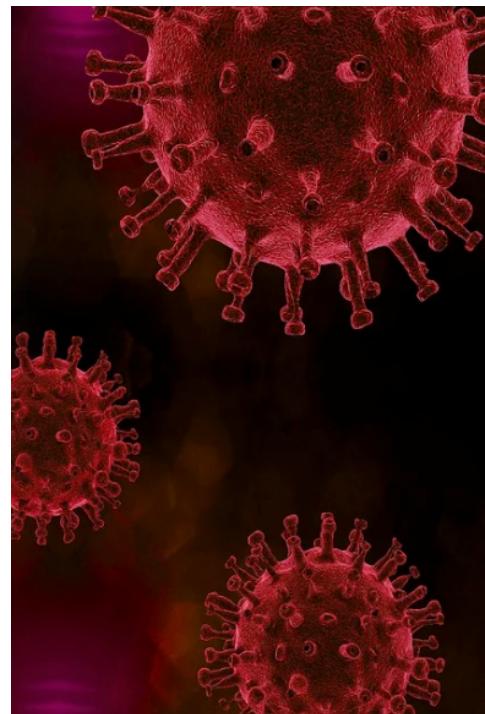


Coronavirus Mutation

by Angelina C.

As the COVID-19 virus continues to spread around the world; the virus has mutated to another virus that can spread more easily between people. The new mutated virus was first found in the UK, and now we can see some first cases of mutated virus in the US. Experts already know that the virus will mutate, and most of them come and go. Unfortunately, this new mutated COVID-19 virus has spread around the people, and it was not temporary for this mutated virus to live.

This new strain of COVID-19 is easier and faster to be spread, but experts haven't found any evidence of the virus being more dangerous or deadly. The new strain of COVID-19 has more cases on children, so it may be more easily spread around children. We should still stay home, wear a mask when going out, and stay 6ft apart to keep the virus from spreading.



Genetics 101

by Anna Y.

Genetics is the study of how different characteristics are passed down from parents to their children. Genetics helps elucidate what makes you unique and why each family members have diseases. When we trace the paths of these qualities we are looking at genes. Genes are made up of DNA and are the basic functional unit of genetics. Genetics affects us in many ways every single day. It can help many health-care professionals to identify conditions before they are born. But, today there are genetic technologies being used to help fix these conditions.

Genetic technology makes use of laboratory techniques to explore the genetics of cells. These studies are performed on multiple humans specimens. These include blood, fetal tissues, and bone marrow. Genetic technologists work in a vigorous laboratory environment working both independently and as a team. These technicians must be able to manage their time wisely to transcribe accurate information.



Role of Minks in Coronavirus Spread

by Aden S.

Right now we are in a pandemic. Covid-19 is already bad. It has been killing millions of people and infected millions of people. Right now in UK it is the center of the virus. Normally viruses will mutate for survival purposes. Covid-19 needs a host and Covid-19 lives on the host. The virus mutates into something called B117. They found the virus mutated in the UK. The first person who reported it was December 14. Many people are freaking out but, they shouldn't because the flu mutates and the Covid-19 also mutated. Right now the UK is under lock down. The B117 is 50% more contagious than the Covid-19. Right now Minks are also spreading B117.

Minks are being slaughtered because of rapid spread from the minks. The b117 is attached to minks since Covid-19 originally came from animals. Right now the spread of b117 has been also reported in Colorado. This is really bad because it is spreading fast and rapidly. Minks might be endangered or be extinct because of many people are slaughtering minks. Overall, the B117 is just more contagious and doesn't have worse symptoms. The B117 is well affected minks and this will extend the lockdown.



Big Ideas and Tsunamis

by Ioifei L.

Everyday there is a new idea formed in everyone's brains but most fails and the ones that surpassed can make a huge difference in the future or past. They can also be discoveries of the world that we are living in. People can also discover things like new animals and experiments. New things or material can also be made like clay, concrete, and ect. Though there are a lot of things that we haven't discovered, people can dream up one, like a unicorn, pegasus, fairies, and many others. Many other things like the weather and nature's cause (natural disasters) can become a big destruction or a new discovery.



Many natural disasters can be, a flood, hurricane, landslide, earthquake, hail, thunderstorm, and ect. All of the natural disasters can come in different sizes and from small damage and big destruction. For example, A Tsunami can wipe out homes, trees, people, and things in their way/path. It can also travel 500 miles or 805 kilometers per hour. They are caused by a medium asteroid, underwater earthquake, submarine landslide, or a big disturbance in the water. In fact the world's biggest tsunami was in 1958 Lituya Bay, in Alaska earthquake and mega tsunami. Overall, a tsunami is dangerous and man-made can cause them.

Mathematics 101

by Xiulin G.

Math is very helpful to use. Math can decide where the ping pong goes when somebody hits it. Math can also decide how long buildings are or furniture. Also, math is all around us. For example when you are in school you need to learn addition, subtraction, multiplication, and division. Math is also used for making clothes. Mathematics is the science that deals with the logic of shape, quantity and arrangement. Last, mathematics are also used for building and creating models.



High-Frequency Trading

by Mr. L.

High-frequency trading is the process of using artificial intelligence and algorithms to make trading decisions in the market. The term high-frequency comes from the fact that multiple trades happen in a short amount of time. Usually these trades are executed in split-minute moments, where algorithms keep track of trigger points, such as news and market events, to make these decisions. These algorithms form the backbone of artificial intelligence and machine learning models that a lot of organizations, namely hedge funds, use. In this project, our goal is to develop and explain the technical workings behind our AI-powered trading tool.

The AI needs some algorithm rules to make efficient trading decisions. The AI should recognize when the stock price is jumping up and down, and use the algorithms to decide whether it should buy or sell stocks. Moving Average Convergence Divergence (MACD) is a momentum indicator that indicates the expected relationship between two moving averages of a security's price. When the MACD goes beyond the Signal, the stock price should be on the rise and is likely to keep rising, when the MACD goes below the Signal, the price should be dropping and will keep dropping. Using MACD, AI can determine when it should buy and sell stocks. MACD is calculated with the Exponential Moving Average (EMA). EMA is a type of moving average that focuses more on the most recent data points, meaning that it will react more significantly to recent price changes. EMA is an indicator that is used to provide buy and sell signals based on crossovers and divergences from the historical average.

Natural Language Processing

by Ms. J.

Narrowly speaking, the study of linguistic analysis using computers is an interdisciplinary discipline of linguistics and computer science, known in academic circles as "Computational Linguistics" or "Natural Language Processing". "(Natural Language Processing, abbreviation: NLP). If a program is understood as "data structure + algorithm", then NLP can be analogously understood as "linguistic domain + computational model". The linguistic domain refers to the linguistic concepts and standards defined by linguists (such as words, lexicality, grammar, semantic roles, chapter structure, etc.), from which most of the tasks of NLP processing originate; the specific implementation of the computational model or algorithm is usually developed by computer scientists. In general, the general-purpose basic NLP is always directly associated with the domain of linguistics, including: stem extraction (Stemming), lexical shape reduction (Lemmatization), Word Segmentation (Word Segmentation), lexical labeling (Part-of-speech, POS), named entity recognition (Named Entity Recognition (NER)), Word Sense Disambiguation (WSD), Chunk Recognition, Syntactic Analysis (e.g. Phrase Structure Grammar Parsing, Dependency Parsing), Semantic Role Labelling (SRL), Coreference Resolution, Discourse Analysis and so on. Some other NLP research is not directly related to linguistics, but is oriented to text processing applications, such as: machine translation, text summarization, information extraction, sentiment classification, information retrieval, question-and-answer system, etc.

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