



STEM

Christmas
Newsletter



Welcome!

Welcome to Stem the News! A student run news paper all about learning about Science, Technology, Engineering and Maths! In this news paper there will be fun maths games to play, news, etc. and is all about enjoying Stem! We really hope you enjoy!

We will be starting a Stem group for 1st years after Christmas for every Tuesday Lunch! In the group we will play games related to Stem and this will be great to meet new people outside of your friend group! Come along and try it out! You may like it

STEM in the News

Recent data shows concussion patients should avoid screen time for the first two days.

New data suggests that if you get a concussion and stay off screens for a couple of days, you could recover sooner!

Researchers assigned a group of 125 patients, all with concussions to two groups. Doctors told all of them to avoid school or work for the first 48 hours. They also told patients in one group to avoid screen time for 48 hours. The other group could use screens, just not for school or work.

Patients who were told to avoid screens completely found this difficult. However, their average screen time was only 130 minutes within the first three days. Patients in the other group spent a much higher average of 630 minutes with their screens. Although all the patients got better, on average, the group with less screen time improved faster. The group with less screen time's average recovery time was 3.5 days, while the other group averaged at 8 days.

New Biomaterial

Scientists from McGill University, California, have developed a biomaterial strong enough to repair muscles the vocal cords and even hearts. "People recovering from heart damage often face a long and tricky journey. Healing is challenging because of the constant movement tissues must withstand as the heart beats. The same is true for vocal cords. Until now there was no injectable material strong enough for the job," says Guangyu Bao, a student in McGill University. A team of scientists, led by Professor Luc Mongeau developed a new injectable hydrogel for wound repair.

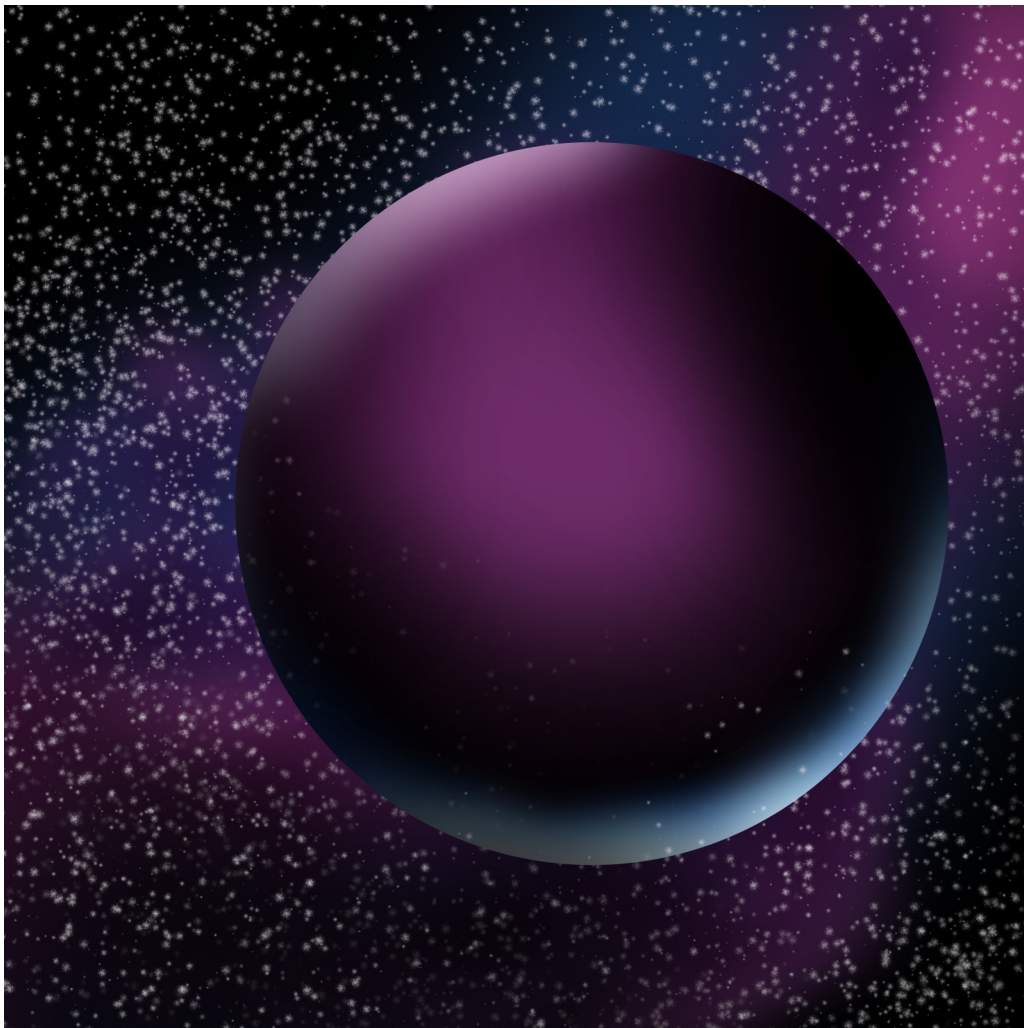
The hydrogel is a type of biomaterial that provides room for cells to live and grow. Once injected into the body, the biomaterial forms a stable, porous structure allowing cells to pass through it to repair the injured organs. "The results are promising, and we hope that one day the new hydrogel will be used as an implant to restore the voice of people with damaged vocal cords, for example laryngeal cancer survivors," says Guangyu Bao. The scientists tested the durability of their hydrogel in a machine to simulate the conditions

A new planet?

Signs of a new planet outside of the Milky Way galaxy have been discovered recently using NASA's Chandra X-ray Observatory. The possible exoplanet is located in the spiral galaxy Messier 51 (M51), also called the Whirlpool Galaxy.

Exoplanets are planets outside of our Solar System. Until now, astronomers have found all other known exoplanets and exoplanet candidates in the Milky Way galaxy, almost all of them less than about 3,000 light-years from Earth. An exoplanet in M51 would be about 28 million light-years away, meaning it would be thousands of times farther away than those in the Milky Way.

Unfortunately NASA are not yet able to confirm they are seeing an extragalactic exoplanet as more data would be needed but it is definitely an exciting discovery that can lead to plenty more in the future!



Maths Puzzles

Ben, Jack and Emma had all got 40 presents between them for Christmas. They each put a small pile of their presents in front of them. Not all. Ben passed $\frac{1}{3}$ of his presents to Jack, Jack passed $\frac{1}{4}$ of his present to Emma and Emma passed $\frac{1}{5}$ of her presents to Jack. They all passed on more than 1 present. After all this they all had the same number of presents.
How many presents could each of them have started with?

Santa travels at a speed of 32/hr on his sleigh. How long did it take him to travel 1600m?

Santa has 3 times as many cookies as his elf Alfie. Elf Oliver has 2 times as many cookies as Alfie. Another elf called Paul has 2 more cookies than Oliver. All of the cookies add up to 26. How many cookies does Paul have?

$$\text{Cookie} + \text{Cookie} + \text{Cookie} = 12$$

$$\text{Cookie} + \text{Cookie} - \text{Star} = 2$$

$$\text{Star} + \text{Star} - \text{Gift} = 9$$

Wordsearch

DYJOSIQZVNHTGAVQABSTTOEWVKVHXU
VEFEBOHCKDSAOZVUTCCNWDWUPZSLXA
CUOXVVDBFNPDENTSYEVOLUTIONOFLM
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Photosynthesis

haemoglobin

Evolution

Acid

Periodic table

Chemical

Aorta

Dna

Respiration

Electron

Atom

Terrestrial

Nucleus

Cell