



Holbrook Science News

The latest science news being brought straight to you!

European Schiaparelli Mars probe Fails Landing on Mars!

On Wednesday 19th October, we could have found possible life on Mars. However, to many people's disappointment, the probe that successfully made it to Mars, unfortunately failed its landing. It is said that Schiaparelli, the probe, was equipped with a heatshield, a parachute and rocket thrusters to slow it down before landing.

Officials say that Schiaparelli was to demonstrate the technology used in the robot and give us confidence to go and land a 6 wheeled rover on Mars in 2021. However, Schiaparelli's crash site has now been found. Using a US satellite, the probe's crash site has now been discovered as a large dark patch.



Story by: Oliver Easter

Edited by: Josh Adams

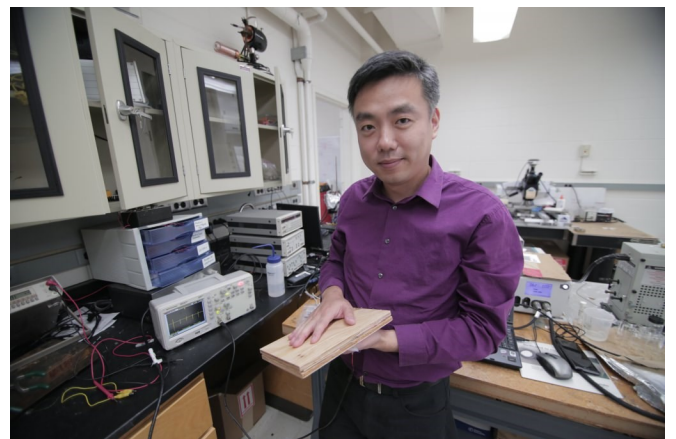
The Next Big Renewable Energy Source Could Be At Our Feet!

Flooring can be made from a range of sustainable materials, making it an eco-friendly feature in our homes. But now, using an inexpensive and simple method, they can turn our footsteps into usable electricity. The energy harvesting technology uses wood pulp and harnesses nanofibres. This new technology was developed by materials engineers at the University of Wisconsin-Madison.

The method puts wood pulp to good use, which is a common waste material. The wood pulp, that is already a common component in flooring, is partly made up of cellulose nanofibres. The nanofibres are tiny fibres that, when chemically treated, produce an electrical charge when they come into contact with untreated nanofibres.

The electricity that these nanofibres create can be harnessed to power lights or even charge batteries. Another good thing about this method is that it is very cheap, and could be as affordable as conventional materials. Although there are other footstep harnessing materials, they are all costly, non-recyclable and impractical at a large scale.

Professor Xudong Wang, one of the designers of this new technology, says that with appropriate designing, the new technology may be able to even outlast the floor itself.



Story by: Josh Adams

Milky Way's Black Hole May Hurl Galactic Spit balls our Way!

The gargantuan black hole at the centre of the Milky Way has begun to hurl spitballs. These spitballs are the roughly the same size as Jupiter and can travel fast enough to shoot out of the galaxy. It is possible that one may zip right by our Solar System. These spitballs are created by stars going too close to a black hole and becoming shredded under the intense gravity and then clumping back together into balls the size of Jupiter and being launched back out. They can travel at several thousand metres by second but what then happens to these blobs are currently unknown.

Around 95% of these blobs are launched so fast that they can escape the gravity of the Milky Way and enter intergalactic space. Of those launched, some could pass by our Solar System, getting as close as 700 light years although detecting them will not be easy. The blobs contain no internal heat source and only emit a trickle of infrared light. Eden Girma, undergraduate at Harvard University, said that our best bet of catching one of these spitballs is to catch one as it passes between the Earth and a distant star. The starlight would momentarily brighten and betray the spitballs presence.

Top 5 Facts About Mars!

1. The largest volcano in the Solar System is on Mars!
2. Mars has different seasons; just like Earth!
3. When on Mars and looking at the Sun it looks half the size.
4. It is believed that Mars once had water on it.
5. Mars has two moons!

Facts by: Oliver Easter

Nanobionic Spinach Plants Can Detect Explosives!

Spinach is no longer just a superfood; by embedding leaves with carbon nanotubes, engineers have transformed spinach plants into sensors that can detect explosives and wirelessly relay that information to a handheld device similar to a smartphone.

"The goal of plant nanobionics is to introduce nanoparticles into the plant to give it non-native functions," says Michael Strano, the Carbon P. Dubbs Professor of Chemical Engineering at MIT and the leader of the research team.

The plants are designed to detect chemical compounds known as nitro aromatics, which are often used in bombs and other explosive devices. The carbon nanotubes emit a fluorescent signal that can be read with an infrared camera. In order to see this, you must connect the camera to a computer or smartphone and then the device sends an email to the user.

Strano, who believes that plant power could also be harnessed to warn of pollutants and environmental conditions such as drought, says, "This is a novel demonstration of how we have overcome the plant/human communication barrier".

Story by: Josh Adams



Science Experiments You Can Do At Home!

Here's an **AWESOME** experiment **YOU** can do at home!

Note (this will take about 3-7 days to fully complete)

What you will need:

Wooden skewer (you can also use a clean wooden chopstick)

A cloths peg

A cup of water

2-3 cups of sugar

A tall, narrow glass or jar

Cooking pan

1. Clip the wooden skewer into the clothes peg so that the skewer hangs down inside the glass and is about 1 inch (2.5 cm) from the bottom of the glass.
2. Remove the skewer and clothes peg and put them aside for now.
3. Pour the water into a pan and bring it to boil.
4. Pour about 1/4 cup of sugar into the boiling water, stirring until it dissolves.
5. Keep adding more and more sugar, each time stirring it until it dissolves, until no more will dissolve. This will take time and patience and it will take longer for the sugar to dissolve each time. Be sure you don't give up too soon. Once no more sugar will dissolve, remove it from heat and allow it to cool for at least 20 minutes.
6. Carefully pour the sugar and water solution into the jar almost to the top. Then submerge the skewer back into the glass making sure that it is hanging straight down the middle without touching the sides.
7. Allow the jar to cool down and put it somewhere where it will not be disturbed.
8. Now just wait. The sugar crystals will grow over the next 3-7 days.
9. Do you want coloured rock candy? Add food colouring!

Human CO₂ emissions said to be putting the arctic ice free by 2050

The Arctic Sea ice has been shrinking by 50 square metres per year. The average American's carbon dioxide emissions are responsible for this. That's the suggestion of a new study that finds that each additional metric ton of CO₂ released into the atmosphere, results in a 3 square meter loss of sea ice cover at summers end. This is equal to losing a chunk of ice a bit smaller than a two seat smart car. Globally, humans are responsible for the release of 36 billion metric tons of CO₂ each year. "Sea ice feels so substantial when you're standing on ice that can hold your own weight, that you can land an airplane on," says Cecilia Bitz, an atmospheric scientist at the University of Washington.

Story by: Martin Quinton



Did You See the Supermoon?

On Monday 14th November, 6:45pm, the moon arose for all to see. The moon is meant to be 14% larger and 30% brighter than the normal moon; although this can be hard to see. We haven't seen a 'Supermoon' in 68 years and it was very exciting for those who saw it. It won't be as close as it was on Monday until November 2034.

Story by: Oliver Easter

Meet the Crab With the 'Mighty Claw'

According to research, the claws of coconut crabs have the strongest pinching force of all crustaceans. Not only this, but they're maximum crushing power is stronger than the bite of any land animal apart from the alligator.

As well as their claws and crushing power being very strong, they are also remarkably strong. They can lift up to 28 kilograms (62 lb), which is the equivalent to a small child. As expected, the crabs claws are their main attack and defense mechanism, of which they also use to crack open coconut shells. Scientists calculated that these crabs could be expected to have a squeezing force of over 3000 Newtons.

These crabs live in on small islands in the Pacific Ocean and Indian Ocean. Unlike most crabs, they only return to the sea to lay their eggs and they can also climb trees and cut coconuts down. Despite their size and strength, little is known about coconut crabs and whether or not they are a threatened species.



Story by: Josh Adams

Human Body Quiz! - With a Prize!

1. What is the name of the biggest part of the human brain?
2. The coloured part of the human eye controls how much light passes through the pupil is called what?
3. What is the name of the substance that gives skin and hair its colour?
4. The muscles found in the front of your thighs are known as what?
5. True or false - The two chambers at the bottom of your heart called ventricles?
6. What substance are nails made of?
7. What is the biggest organ in the human body called?
8. The innermost part of bones contains what?
9. True or false - An adult human body has over 500 bones?
10. How many lungs does the human body have?
11. What is another name for your voice box?
12. The two holes in your nose are called?
13. Your tongue is home to special structures that allow you to experience tastes such as sour, sweet, salty and bitter, what's their name?
14. What are the bones that make up your spine called?
15. What is the shape of DNA is known as?
16. What is the flow of blood through your heart and around your body is called?
17. The bones around your chest that protect organs such as the heart are called what?
18. What is the name of the long pipe that shifts food from the back of your throat down to your stomach?
19. True or false - Your ears are important when it comes to staying balanced?
20. What is the outside layer of your skin called?

Quiz by: Spencer Andrews

See Mr Blay with the answers for the chance of winning a prize, if completed before half term.