



Even science of wacky odds

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The sound of nails on chalkboard is like just another noise, yet it irks us beyond measure. Odd? And odd enough is the nation's obsession with fidget spinners. Thankfully enough, there is science to make things even. **Yavnika Garg, AIS Gur 46, XI D** brings science of some odd stories.



Nailing the chalkboard

If there is anything that is more annoying than those pollution level statements, it has got to be the sound of nails on a chalkboard. But what is about this sound that the mere mention of it is cringeworthy enough? Well, science has the answer. Firstly, our ears have been developed in such a way that they tend to amplify sounds that fall in the range of 2Kz-4Kz. The uncomfortable noise of nails on a chalkboard falls in this frequency range. Further on, this screeching sound enhances the communication be-

tween the area of the brain responsible for hearing and the area of the brain responsible for processing negative emotions ie the amygdala, resulting in the body cringing.

Fidget spinners make winners

49 of the 50 most selling toys on Amazon are some kind of fidget spinner. The reason for their soaring popularity, lies with science yet again.

Fidget spinners are small sensory toys that come with a central bearing that the user grips with

his index finger and a three pronged rotational blade that spins once you flick it with your fingers. As it spins, it gives the user a pleasurable sensory experience, which explains why this mundane toy is addictive.

Fidget spinners are being marketed as the new age stress reliever simply because numerous scientific studies have proven that these fidgeting devices actually increase focus and release stress. They are known to benefit kids with autism and anxiety disorders in particular. It has also been reported that children in-

involved in playing with fidgets have well developed fine and motor skills, increased creativity and faster thinking abilities. But that said most of these studies still seek verification so hold on before you celebrate these spinners as the messiah of 'lack of focus'.

Hall of illusions

We all have at some point or the other come across static images that appear to be moving. These 'visual illusions' as they are called find their roots in science. They are created when the real

image does not match the image created by our visual system. When we fixate on a pattern, it leaves an after image on our retinas. When our eyes make small involuntary movements this ghost image overlaps with the real image, thereby creating an illusion of a rippling effect. This of course is just one explanation.

Many more such simple things keep happening around us daily. Thankfully enough, science has explanations for all of them. Aliens sightings are still waiting an explanation though! 🌌

Polishing pennies

If you have some old pennies at your home which look dull and worn out, try this one

Pre requisites

- Lemon juice
- Tarnished pennies
- A cup
- Paper towel

Method

- Take a cup and put tarnished pennies inside it.
- Next, add lemon juice in the cup to a level that all the pennies are immersed in it.
- Leave the cup for about five minutes.
- Finally, take out pennies one by one and wipe them off with a paper towel.

Observation:

- Your pennies are made of metals. So, when a metal comes in contact with oxygen in the air, it gets oxidized and a layer is formed.
- Lemon juice acts as an acid and removes the oxidation. Hence, the old tarnished pennies shine bright once again.

Tale of a 'Bluetiful' sky

Standing beneath the vast sky, aiming to reach it someday, one can't help but marvel at this blue beauty

Who am I?

I am the sky. I lie above the Earth's surface, including the atmosphere and outer space. Scientists also call me the celestial sphere.

What is my colour?

I am blue. Yes, since the inception of the universe, I have been blue. I was born with this colour that spreads like a wide umbrella above everyone on Earth. Human beings are fascinated by the fact that how have I maintained the same colour. Sometimes, it leaves them wondering why I am not red, yellow, green, violet etc.

How did I get my blue colour?

The way, humans have different eye colour due to 'melanin', a pigment responsible for the colour of our eyes, similarly, my colour also depends on a phenomenon known as 'Rayleigh scattering'. To everyone on Earth, light from the sun looks white but it's made up of different colours of rainbow known as VIBGYOR. And all these colours have different wavelength - short and long.

What happens in the atmosphere?

As sunlight (light) reaches me, it gets scattered by molecules of gas and other particles in all directions. My colour, 'blue' gets scattered easily due to short wavelength as compared to lights of long wavelength and this is what Rayleigh scattering is. Hence, my colour appears blue from Earth.