Operation: Melt your mind

Picture the crack of a chip, the pop of popcorn, the psssht of soda… sounds that make snacking irresistible. Do you ever wonder how science turns simple ingredients into sensory explosions? ***Zayn Negi, AIS Noida, VII J,*** *brings to you* ***part I*** *of GT's Science Behind Snack series, where every snack shall have its moment. Without further ado, let's dig in!*

Snack: Choco Lava
Science involved: Food engineering
Threat level: Extremely gooey

Power type

Its power is obviously chocolate! But the real sensory experience comes from hot, gooey lava that melts in your mouth. The moment you take a bite, it feels unreal, like you have transcended into a dimension far away from reality for a while. Somehow, one is never enough. The addictive craving stays with you, pulling you back for more and more!

Snack-ology

From its humble beginnings in a French kitchen, the molten chocolate cake has evolved into one of the world's most celebrated desserts. You might know it as Choco Lava cake, but its origins trace back to French chef Michel Bras' innovative creation of *Coulant au chocolat* in 1981. Food engineers spent years perfecting the recipe, tackling the trickiest challenge of getting the texture right. A Choco Lava cake requires viscosity control, which means the centre needs to be soft and flowing for that perfect ooey-gooey feel, but still thick enough to feel rich instead of watery. The liquid chocolate in a Choco Lava is also a non-Newtonian Fluid. Most of the time it flows like a liquid, but under sudden force it acts like a firm solid. That balance is what makes it work so well.

Test it yourself

Taste is smell! Truly. Pinch your nose shut when you eat a Chocolate Lava cake next. The flavour will seem intensified. When you chew, tiny bubbles of scent travel from the back of your mouth up to your nose. And, warm cake tastes stronger because heat releases more aroma compounds.

Lab behind the bite

What looks like pure indulgence is actually a science experiment occurring inside your oven. The cake goes through a process called Starch Gelatinisation. It is an irreversible, heat-induced process where small starch particles absorb tiny water particles and expand, trapping air bubbles. The starch then sets in the shape of the mould, creating a 'structural cup' which holds the liquid in, so that we experience an explosion of rich, velvety molten chocolate in every bite!

Well, why can't you stop munching?

Apart from taste, the multi-sensory magic of a crispy and smoky exterior with a gooey depth sends dopamine signal to your brain. This chemical rush makes it hard to stop munching! Besides that, the heaps of sugar and fat used in the Choco Lava trigger your palate, leaving you with an empty container and a full stomach!

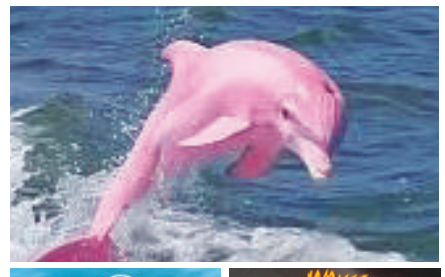
Rating:

The hidden rainbow

Few Of The Rarest Pigments In Nature's Canvas

Riddhi Yadav, AIS Gur 46, IX I

While greens and browns dominate nature's canvas, some creatures stand out in striking colours. These pigments are more than visual wonders; they reveal clues about survival, chemistry, and adaptation.



Blue hues: Many blue creatures use structural colouration, i.e. microscopic prisms that scatter light. In other cases, blue is achieved through the chemical modification of red pigments via changes in pH levels. For e.g., the blue lobster owes its shell colour to a genetic mutation that alters red pigments into a complex blue.

Pink distinct: Pink is rare to see in animals but common in plants due to anthocyanins. In microbes, extreme survivors use a pink pigment called bacterioruberin, thriving in hyper-saline lakes by using the pigment as a biological sunscreen. Animals like Amazon river dolphin and the axolotl are pink due to thin skin, visible blood vessels, or genetic conditions like erythrism.

Vivacious violets: It isn't every day that you come across a violet sea snail. Violet is uncommon as it needs precise light interaction and diet. They are mostly found in microscopic marine bacteria or specialised invertebrates like the Spanish shawl sea slug. Many marine organisms possess pigments that glow violet under UV light, helping them survive in deep, dark waters.

Hidden white: White is not a pigment but a lack of it, known as leucism. Animals like white tigers or white orcas use this lack of colour for camouflage in snowy habitats.

Pigments take millions of years to evolve, undergoing modifications to survive. Nature is a big box of crayons, and we just have to be lucky enough to spot them. GT