Mini-Facts | Biology and Physics Edition |

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How Do Boomerangs Work? | Physics |

Have you ever wondered why Boomerangs curve back towards you? Well, it's all in the aerodynamics. Due to its curved shape, when a boomerang is thrown correctly, it generates a high amount of spin. As the wings cut through the air, the airflow over the wings creates lift and an unbalanced aerodynamic effect. This will curve the path of the boomerang into an ellipse, and thus return the boomerang to its original point where it was thrown.

The Immortal Jellyfish | Biology |

I bet you have heard of the Immortal Jellyfish before. But, I also know that you do not know how and why it works.

Turritopsis dohrnii, more commonly known as the immortal jellyfish was actually discovered in 1880, but its immortality was discovered a century later in 1980. But I know you don't care about this, you want to know **how** it's immortal. The jellyfish effectively restarts it's lifecycle. It can do this because the jellyfish actually has a process in it called *transdifferentiation* in which it repurposes and regenerates it's cells.

You may be thinking to yourselves why nature even allows this and you are right, it doesn't. The jellyfish can only "restart" it's life under certain deadly conditions. For example, if the jellyfish were to be eaten, then it would simply die, however, if it starved it would just come back to life.

Heisenberg Uncertainty Principle | Physics |

Do you know who Heisenberg is? Not from Breaking Bad, Werner Heisenberg was a German physicist who is famous for his uncertainty principle regarding particle physics. Heisenberg suggested that we cannot know the position or even speed of particle with pinpoint accuracy. This is because, the more we understand the exact position of a particle, the less we actually understand about it's speed; they are both indirectly proportional.

However, there is something more ***crazy*** than that. The Heisenberg Effect states that the very act of observing/measuring particles directly alters what is happening to the particle. That basically, means it changes based on whether or not your looking at it! How does the particle know when you're looking at it? Don't ask me!

The Biological Purpose of Hiccups | Biology |

Don't you hate it whenever you get the hiccups? Well there might be an actual biological reason for hiccups! Unlike sneezing, coughing, or even vomiting, there is no clear physiological reason for hiccuping. Sneezing helps your body clear the nasal airway, coughing helps you clear the airways, and vomiting helps your body remove dangerous substances from your digestive system. What about hiccups? Though there are many theories, the most accepted theory so far is that hiccups are triggered due to a major presence of gas in the stomach. Effectively, hiccups have evolved to remove air from the stomachs of young mammals.