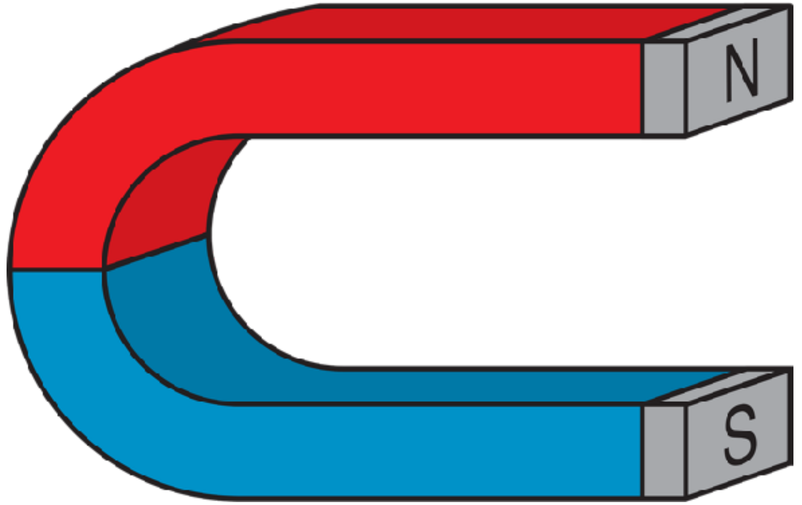
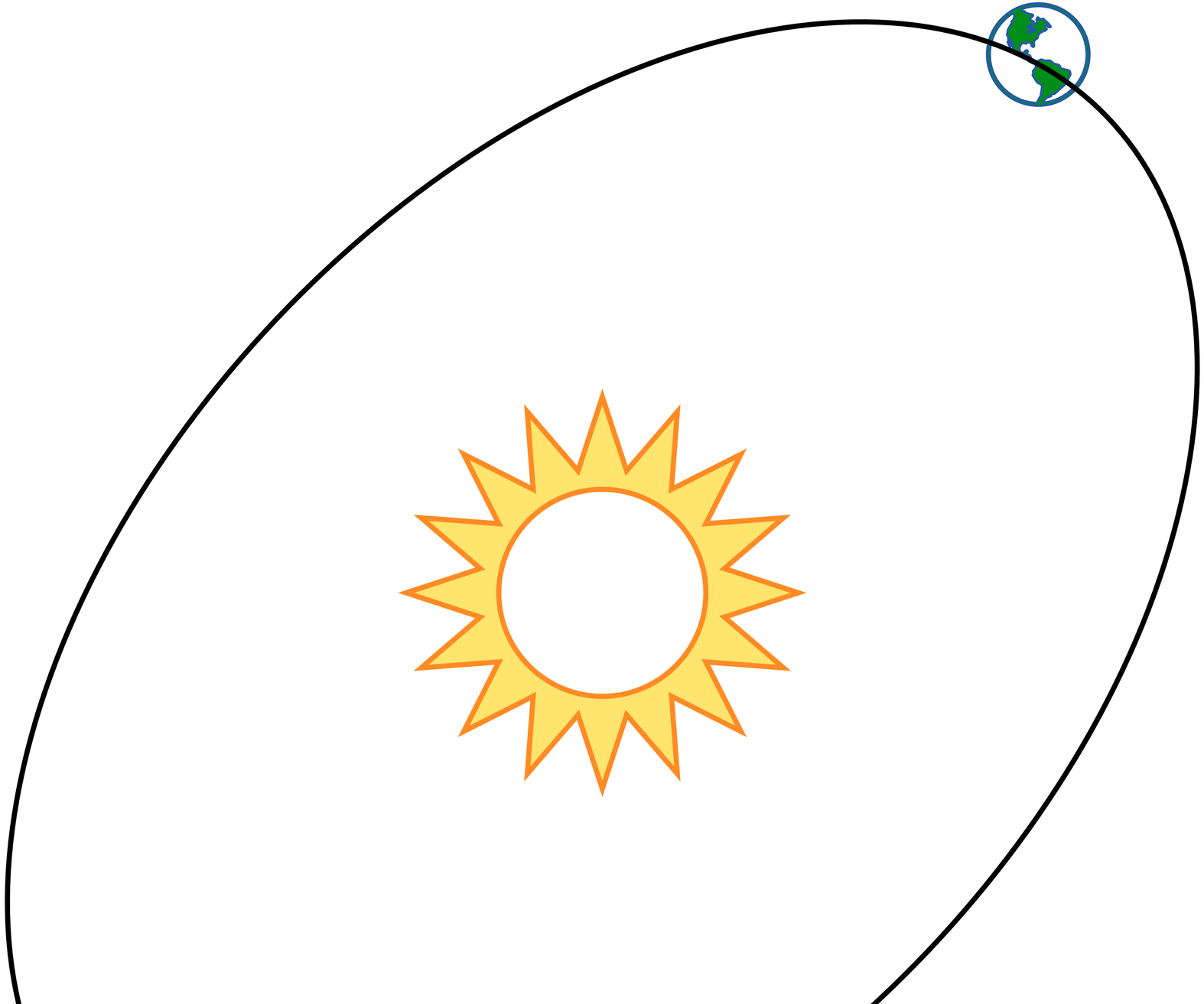


Images by yeTis on Pixabay



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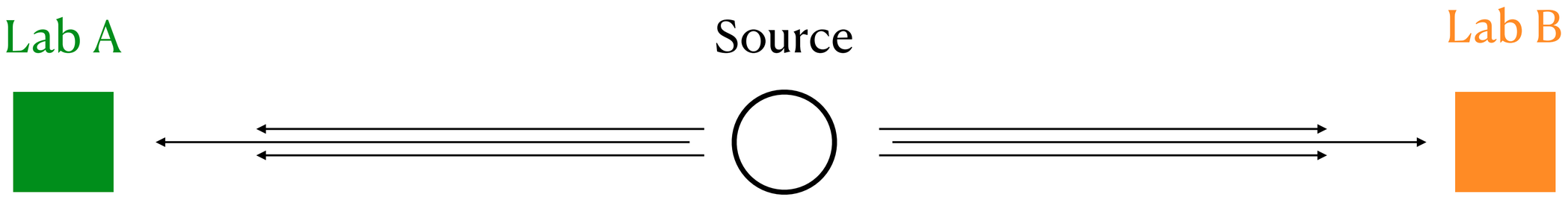
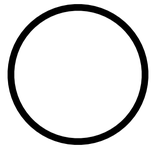

Lab A
Source
Lab B

Lab A

Random Sequence



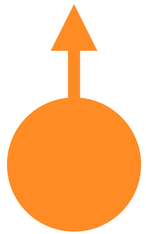
Lab B

Different
Random Sequence

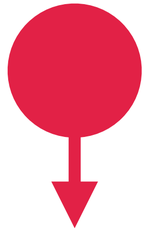
The key experiments were done in 1982, and the researchers won the Nobel Prize in 2022. There have been a lot of "explanations" written, and to be honest, there is a certain amount of gobbledegoop out there, because people like to have a concrete answer, even if it's nonsense. We still don't know how the photons communicate with each other, and we still don't know how WE can communicate with each other faster than light.

This video is about the motivation for Bell's theorem and the photon correlation experiments. The next video is about the analysis of the experimental results. When I first read about the 1982 experiments by Alain Aspect and colleagues, I found it hard to follow the logic of Bell's Inequality. I created a story of a time machine to help me understand it, and that's what I will share.

Entangled electrons:



Spin up



Spin down

Entangled photons:

Both polarized vertically

OR

Both polarized horizontally

Non-Classical Issues In Quantum Mechanics

Superposition

Collapse of the wave function

Probabilities

What constitutes a measurement

Wave-particle duality

Non-locality