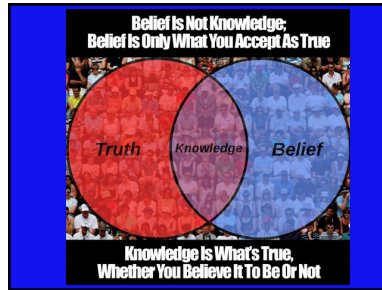


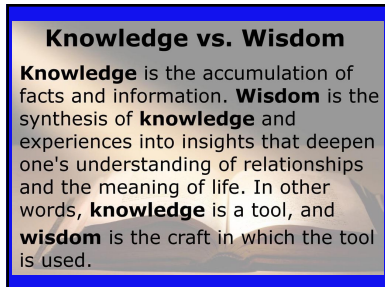
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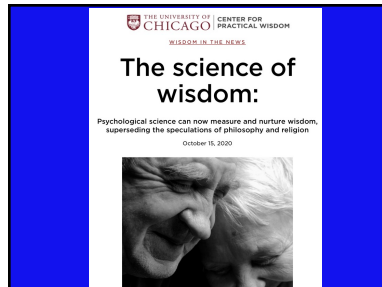
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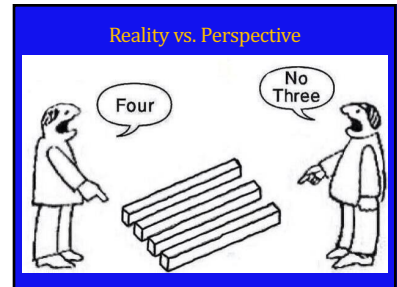
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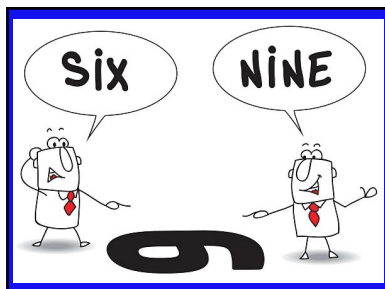
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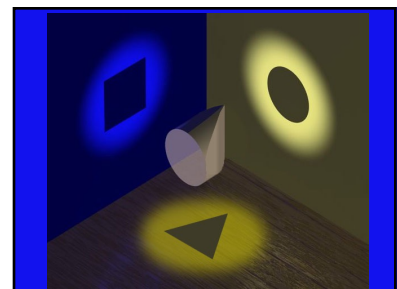
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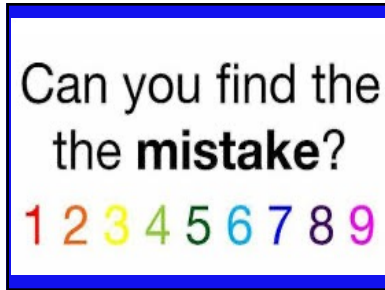
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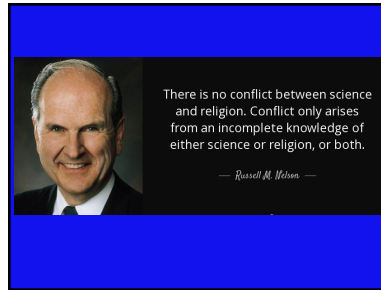
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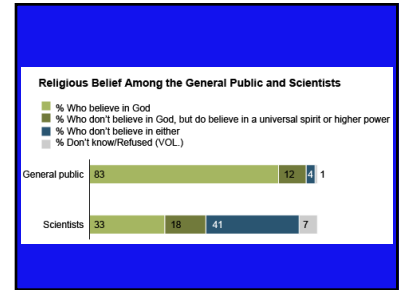
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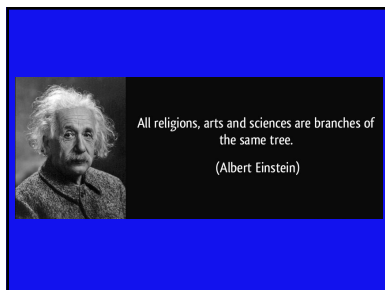
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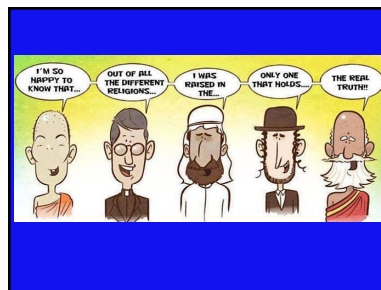
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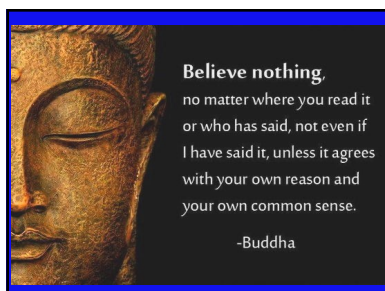
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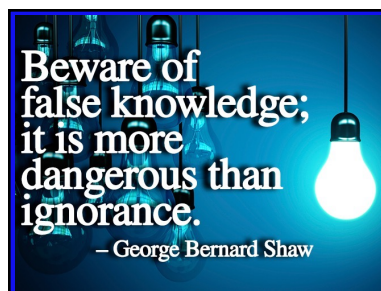
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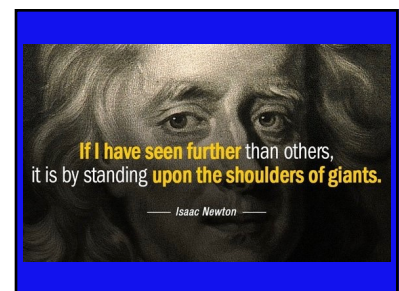
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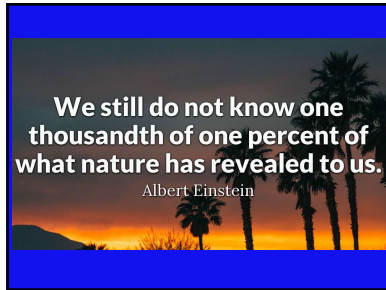
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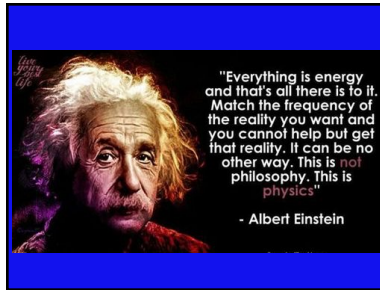
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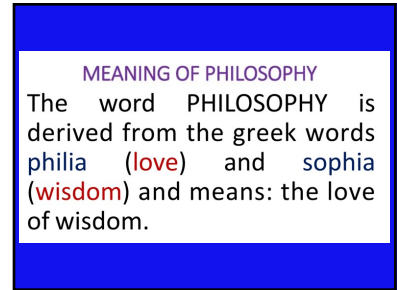
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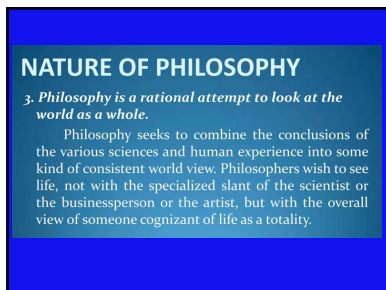
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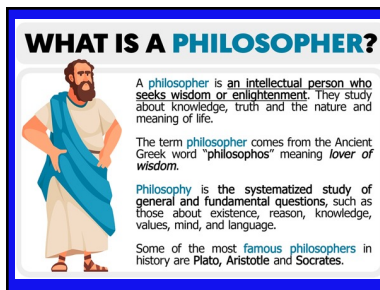
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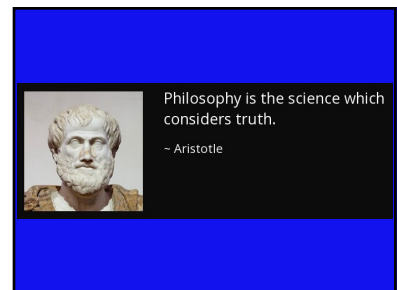
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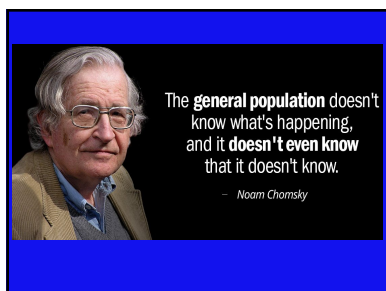
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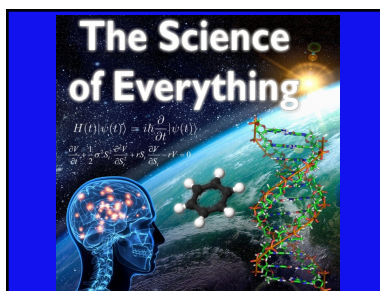
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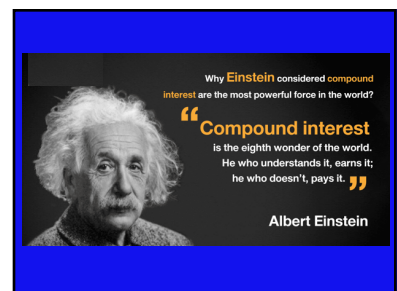
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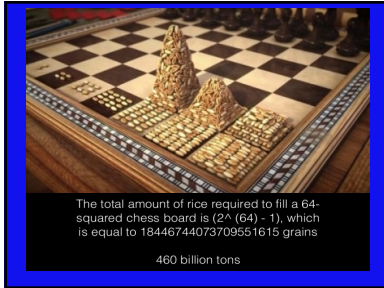
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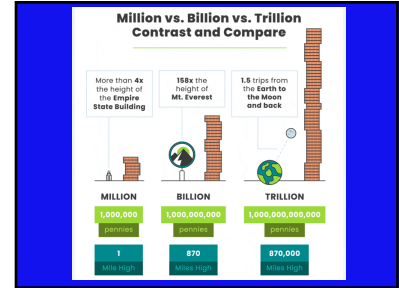
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Would You Rather

...get a penny doubled every day for 30 days, or \$10,000 every day?

Day	Penny	\$10,000
Day 1	\$0.01	\$10,000
Day 2	\$0.02	\$20,000
Day 3	\$0.04	\$30,000
Day 4	\$0.08	\$40,000
Day 5	\$0.16	\$50,000
Day 6	\$0.32	\$60,000
Day 7	\$0.64	\$70,000
Day 8	\$1.28	\$80,000
Day 9	\$2.56	\$90,000
Day 10	\$5.12	\$100,000
Day 11	\$10.24	\$110,000
Day 12	\$20.48	\$120,000
Day 13	\$40.96	\$130,000
Day 14	\$81.92	\$140,000
Day 15	\$163.84	\$150,000
Day 16	\$327.68	\$160,000
Day 17	\$655.36	\$170,000
Day 18	\$1,311	\$180,000
Day 19	\$2,621	\$190,000
Day 20	\$5,242	\$200,000
Day 21	\$10,485	\$210,000
Day 22	\$20,971	\$220,000
Day 23	\$41,943	\$230,000
Day 24	\$83,886	\$240,000
Day 25	\$167,772	\$250,000
Day 26	\$335,544	\$260,000
Day 27	\$671,088	\$270,000
Day 28	\$1,342,177	\$280,000
Day 29	\$2,684,354	\$290,000
Day 30	\$5,368,709	\$300,000

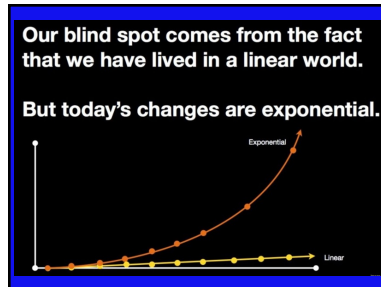
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The difference between a million, billion, and trillion: A million seconds is 12 days. A billion seconds is 31 years. A trillion seconds is 31,688 years

31



32

Formation of New Cells by Cell Division

- About 2 trillion cells are produced by an adult human body every day (about 25 million a second!)
- These new cells are formed when older cells divide in a process called **cell division**

33

How many chemical reactions happen in our body?

Since we have about 200 trillion cells and each one performs millions of chemical reactions, the total number of chemical reactions in the human body is about 400 billion per second every second of your life.

That's 4 times the amount of stars in our galaxy which is a mere 100 billion

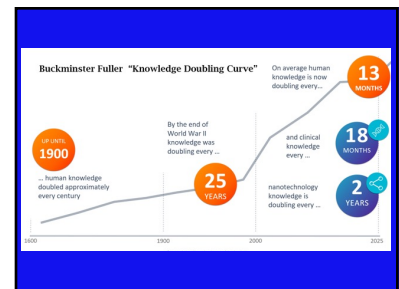
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DATA EVOLUTION (and the EVIDENCE)... Knowledge Doubling Curve

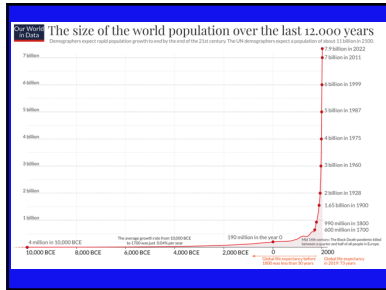
Buckminster Fuller created the "Knowledge Doubling Curve"

- He noticed that until 1900 human knowledge doubled approximately every century.
- By the end of World War II knowledge was doubling every 25 years.
- Today things are not as simple as different types of knowledge have different rates of growth. For example, nanotechnology knowledge is doubling every two years and clinical knowledge every 18 months.
- But on average human knowledge is doubling every 13 months.
- IBM states that the build out of the "internet of things" will lead to the doubling of knowledge every 12 hours!

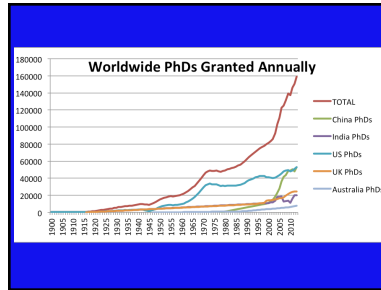
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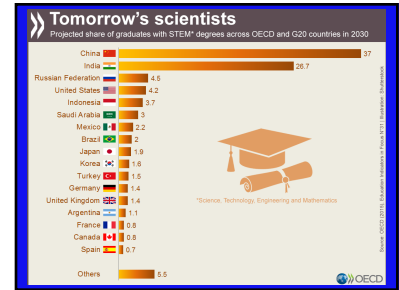
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High IQ & Genius IQ

- Genius IQ is generally considered to begin around 140 to 145, representing ~.25% of the population (1 in 400). Here's a rough guide:
- 115-124 - Above average (e.g., university students)
- 125-134 - Gifted (e.g., post-graduate students)
- 135-144 - Highly gifted (e.g., intellectuals)
- 145-154 - Genius (e.g., professors)
- 155-164 - Genius (e.g., Nobel Prize winners)
- 165-179 - High genius
- 180-200 - Highest genius
- >200 - "Unmeasurable genius"

More notes on High IQ and Genius IQ:
 • Einstein was considered to "only" have an IQ of about 160.
 • A society for people with high IQ, in the top 2% (1 in 50).

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41

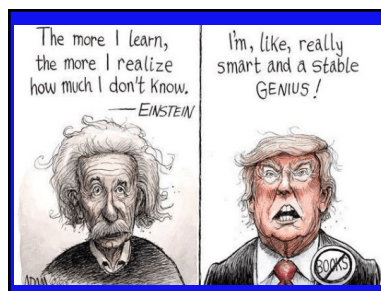
3 STAGES OF ARTIFICIAL INTELLIGENCE

ARTIFICIAL NARROW INTELLIGENCE (ANI)	ARTIFICIAL GENERAL INTELLIGENCE (AGI)	ARTIFICIAL SUPER INTELLIGENCE (ASI)
MACHINE LEARNING	MACHINE INTELLIGENCE	MACHINE CONSCIOUSNESS
<ul style="list-style-type: none"> Focuses on performing single narrow tasks with efficiency. Cortana, Alexa, Chatbots, etc. 	<ul style="list-style-type: none"> Computers acquiring intelligent capabilities comparable to human. Still a theoretical concept. 	<ul style="list-style-type: none"> Machines transcending human intelligence. Technology more capable than humans in performing all kinds of tasks.

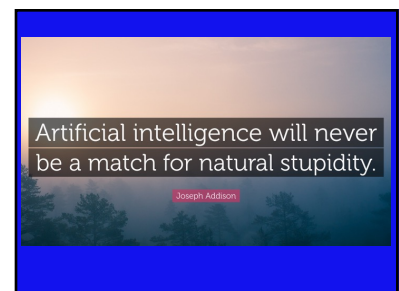
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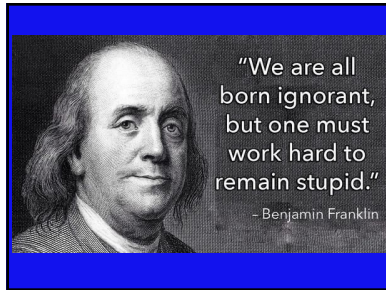
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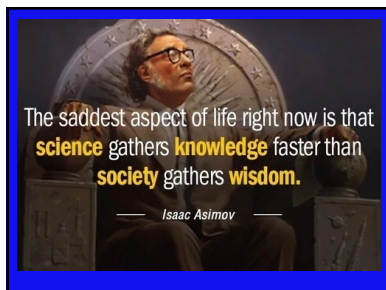
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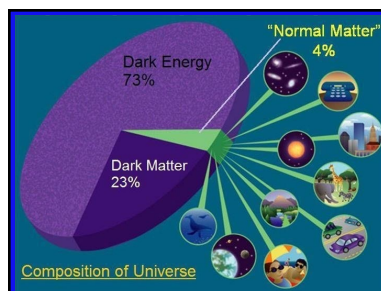
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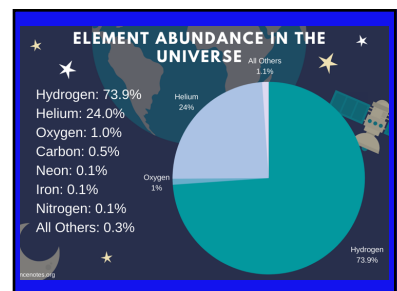
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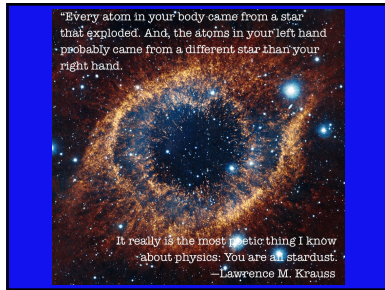
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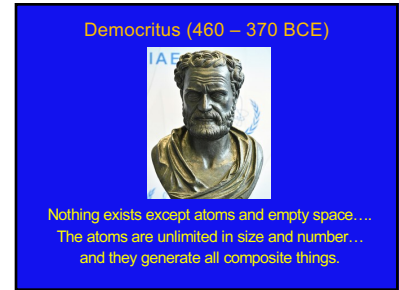
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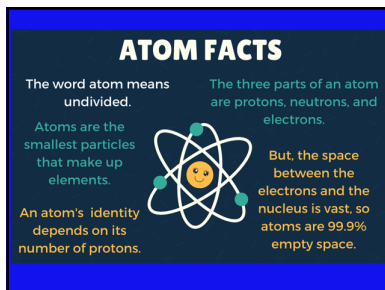
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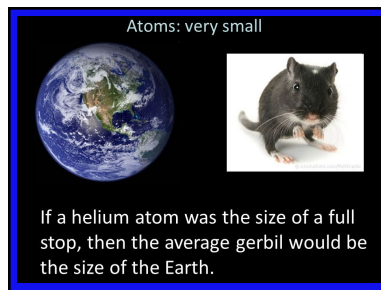
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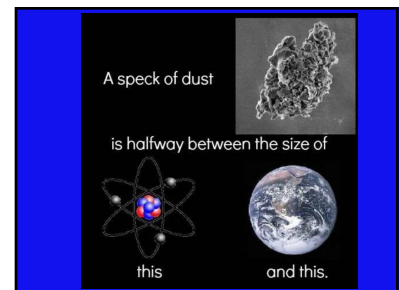
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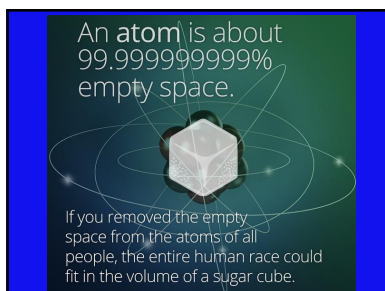
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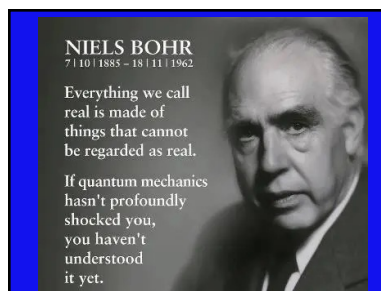
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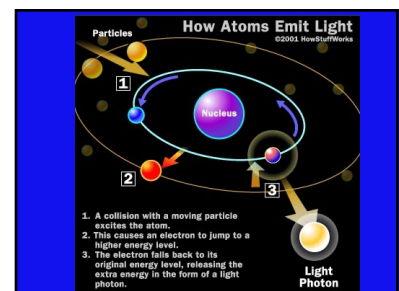
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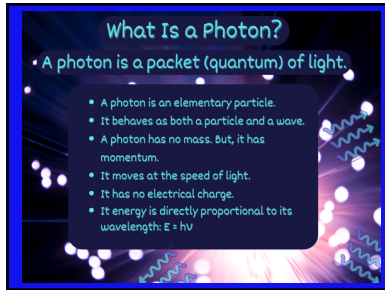
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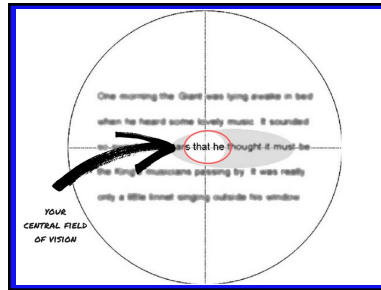
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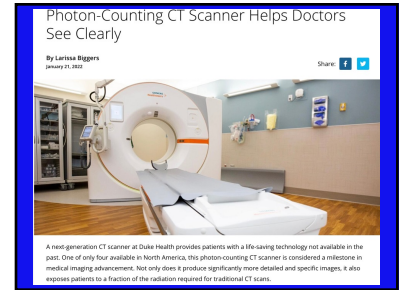
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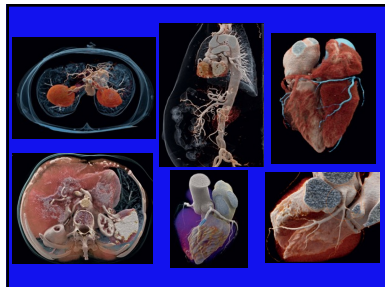
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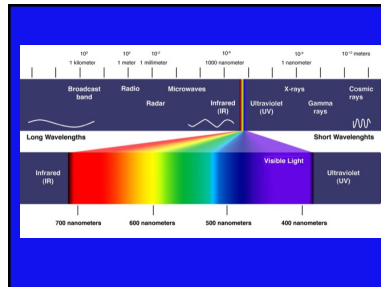
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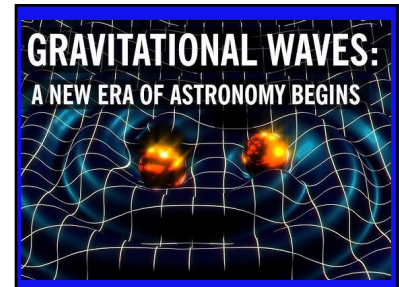
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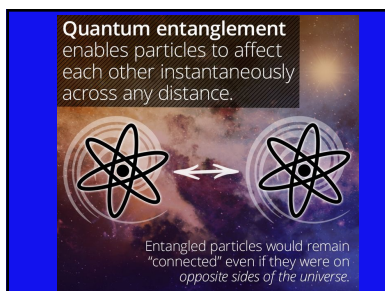
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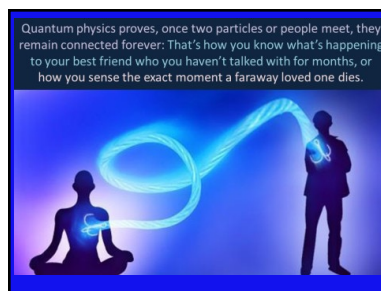
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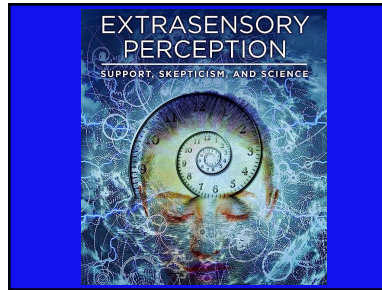
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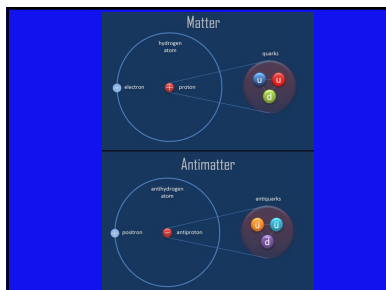
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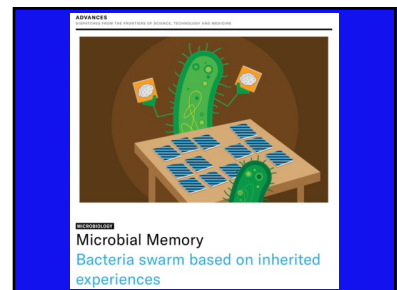
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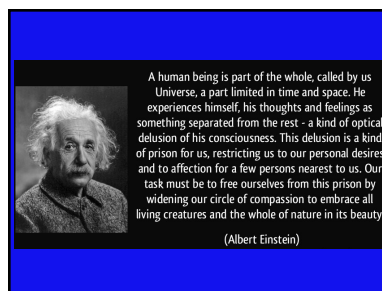
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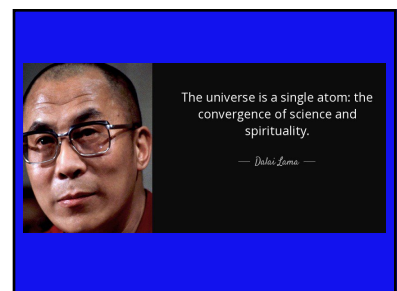
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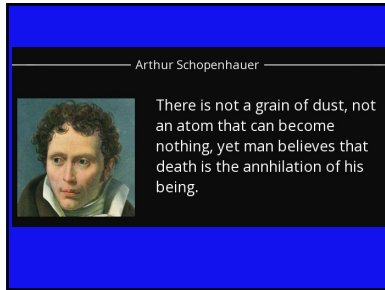
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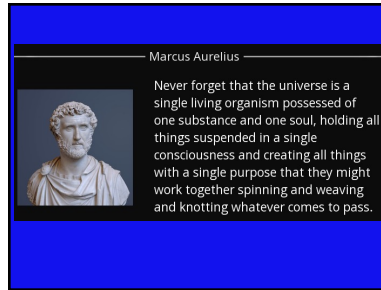
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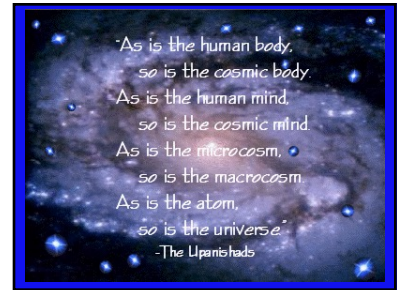
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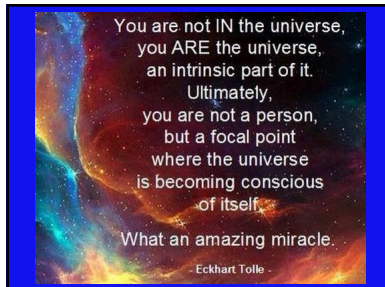
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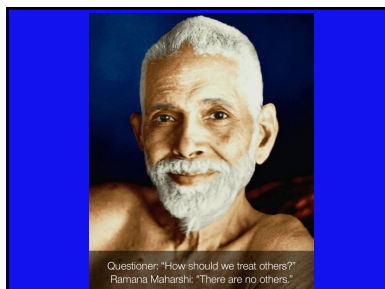
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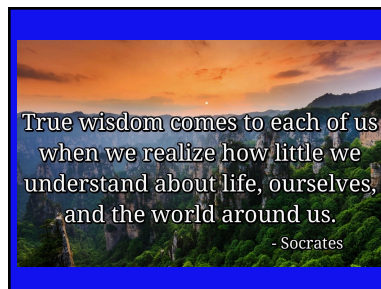
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