

$f_g = \frac{m_1 m_2}{r^2}$
 $I_m^2 = U_m^2 \left[\frac{1}{R^2} + \left(\frac{1}{x_c} - \frac{1}{x_c} \right)^2 \right]$
 $F = \frac{h^2 k^2}{2m}$
 $E = mc^2$
 $\oint B \cdot dl = \mu_0 \sum I_j$

$\oint \vec{D} \cdot d\vec{S} = Q_{enc}$
 $a^2 = b^2 + c^2 - 2bc \cos \alpha$
 $c \cdot b \cdot x \cdot \cot \alpha = 1$
 $Q = mc \Delta t_A$
 $T = \frac{4\pi m r^2}{(n_2 + n_1)^2}$

$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$
 $\Phi = NBS \mu_0 = \frac{\Delta M \mu_0}{\Delta x}$
 $v = \frac{c}{\sqrt{\epsilon \cdot \mu}} = \frac{c}{\sqrt{\epsilon \cdot \mu_0}}$
 $2 \sin x$
 $\beta = \frac{\Delta l c}{\Delta t B}$
 $b^2 = c \cdot c_l$
 $a^2 = c \cdot c_a$
 $FZl = \sqrt{a^2 + b^2}$

$I_m^2 = U_m^2 \left[\frac{1}{R^2} + \left(\frac{1}{x_c} - \frac{1}{x_c} \right)^2 \right]$
 $\sin 2x$
 $\Phi = \frac{\Delta E}{\Delta t}$
 $\frac{\partial}{\partial x} = 2, \frac{\partial}{\partial y} = 0 \vec{v} = (v_x, v_y, v_z)$

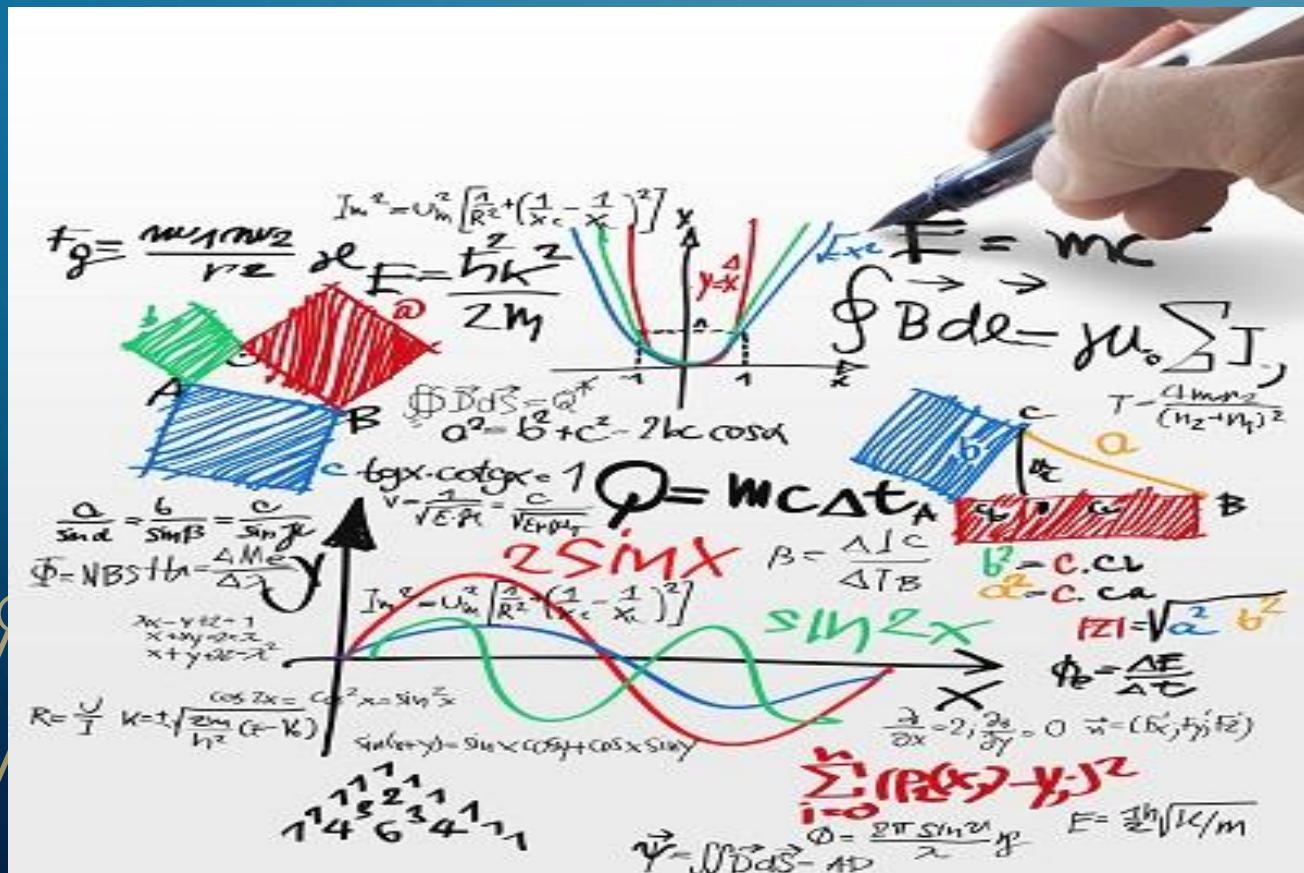
$R = \frac{U}{I} \quad K = \sqrt{\frac{2m}{h^2} (E - V_0)}$
 $\cos 2x = \cos^2 x - \sin^2 x$
 $\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$
 $\sum_{i=0}^n (x_i - y_i)^2$
 $E = \frac{1}{2} h \sqrt{k/m}$

$1^1 1^1 1^1$
 $1^1 2^1 1^1$
 $1^1 4^1 6^1 3^1 1^1$
 $1^1 1^1 1^1 1^1 1^1$

$\vec{\Psi} = \iint \vec{D} \cdot d\vec{S} = AD$
 $\Phi = \frac{2\pi \sin 2\alpha}{\lambda} \mu$



FASCINATING PHYSICS IN EVERYDAY LIFE



Motion

Spinning = Rotation

Axis- ось

Force = Velocity

Acceleration

Data

Entropy – мера хаоса

Infrared light

- ***Random***
- ***Torgue – сила закручивания***
- ***Inertia***
- ***Encryption***
- ***Propulsion-силовая установка***
- ***Rocket thrust-осевая нагрузка***
- ***Nozzle – сопло***
- ***Вуоуант force - плавучесть***

THE FASCINATING PHYSICS OF EVERYDAY LIFE





What Physics Taught me about Marketing

TED Ideas worth spreading



1. The first step in the process of marketing is to identify the needs and wants of the target market. This is done by conducting market research. Market research is the process of gathering information about the target market. This information is used to develop marketing strategies that will meet the needs and wants of the target market.

2. The second step in the process of marketing is to develop a marketing strategy. A marketing strategy is a plan of action that outlines the steps that will be taken to reach the target market. This strategy should be based on the information gathered in the market research phase.

Why is this important?
Marketing is the process of creating a demand for a product or service. This is done by identifying the needs and wants of the target market and then developing a marketing strategy that will meet those needs and wants.

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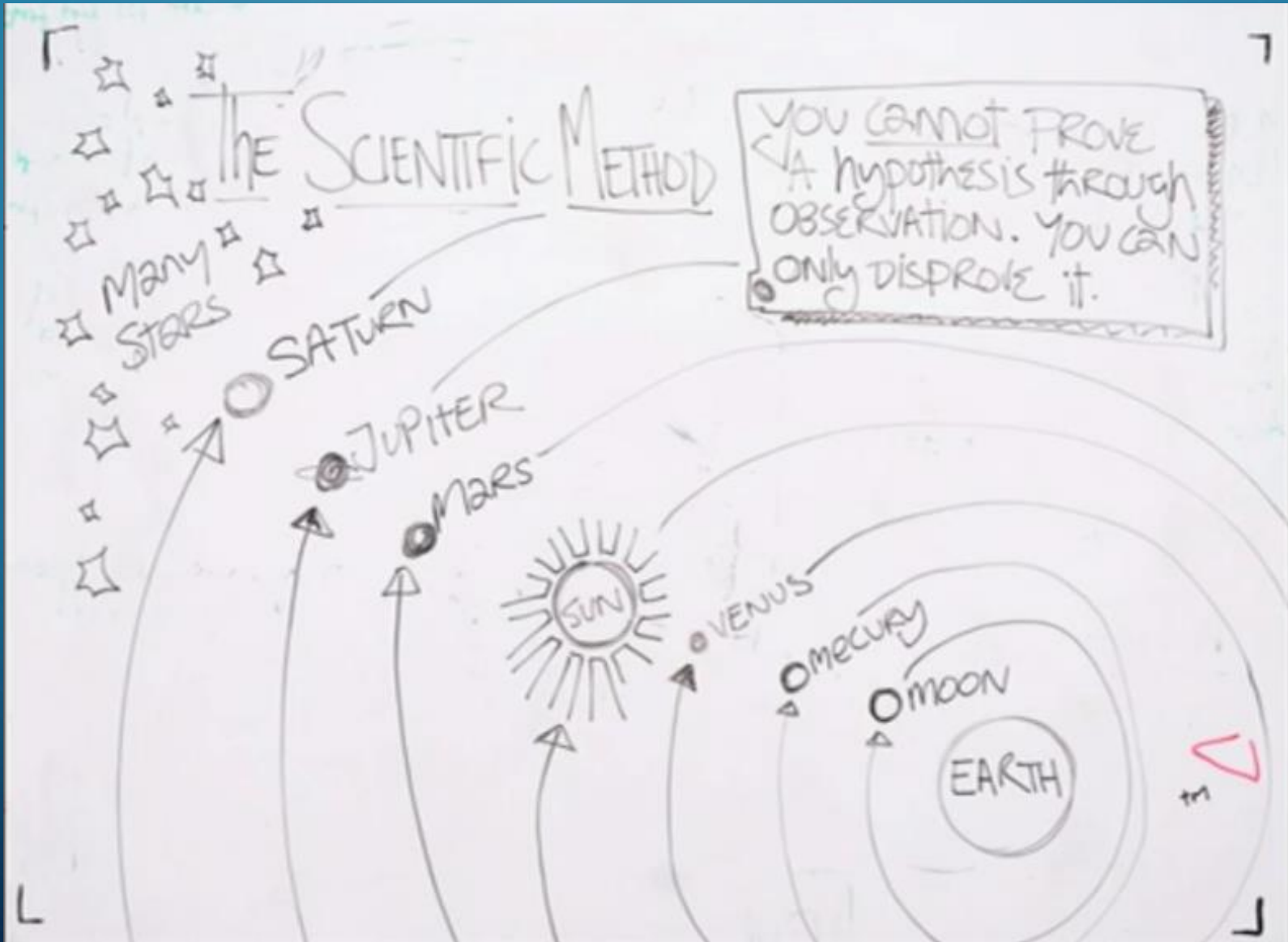
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BY: Iris Estevez



HOW QUANTUM MECHANICS EXPLAINS GLOBAL WARMING



PHYSICS + BALLET



HOW QUANTUM PHYSICS CAN MAKE ENCRYPTION STRONGER



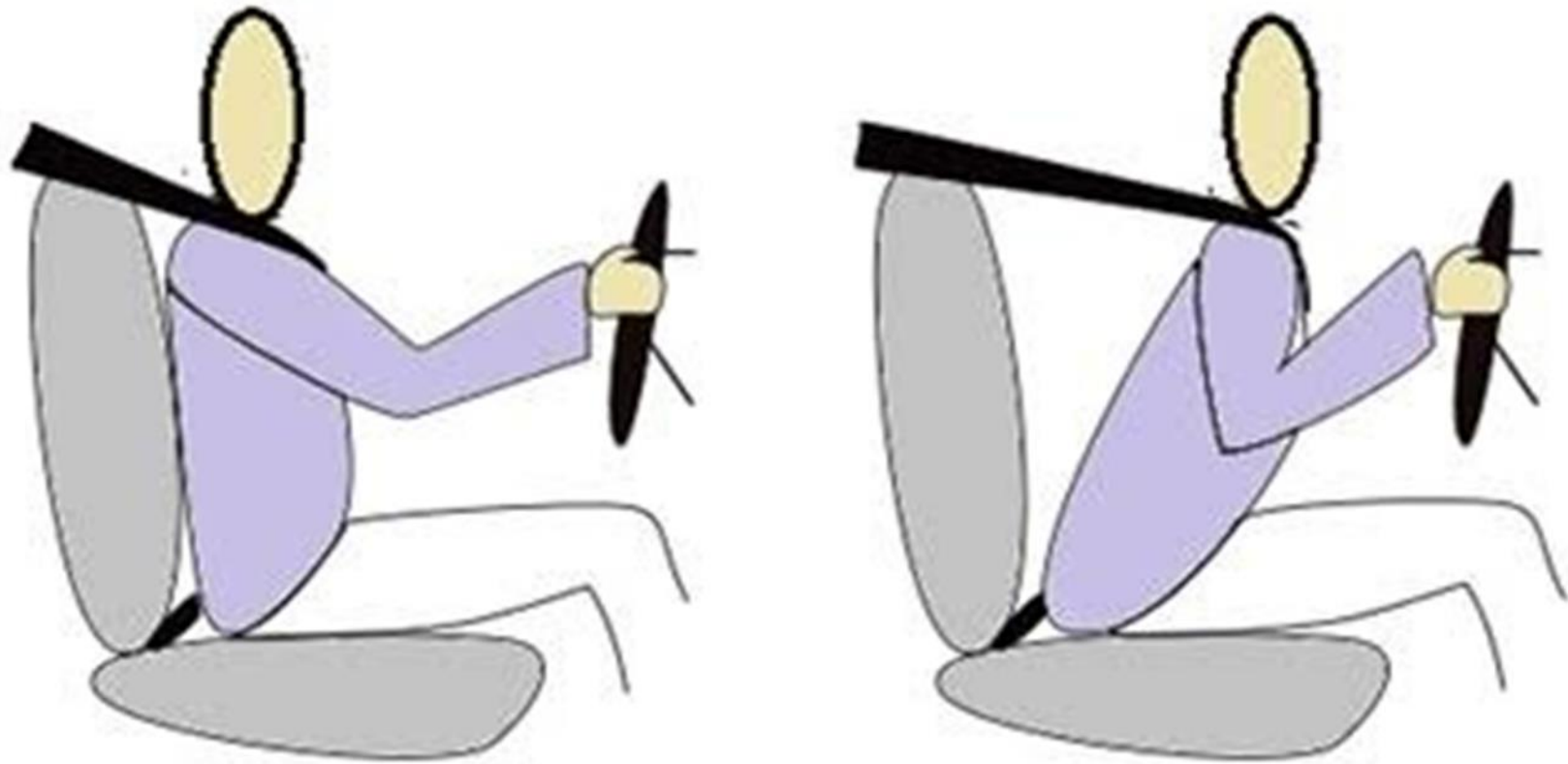
Encryption Key



The Exchange



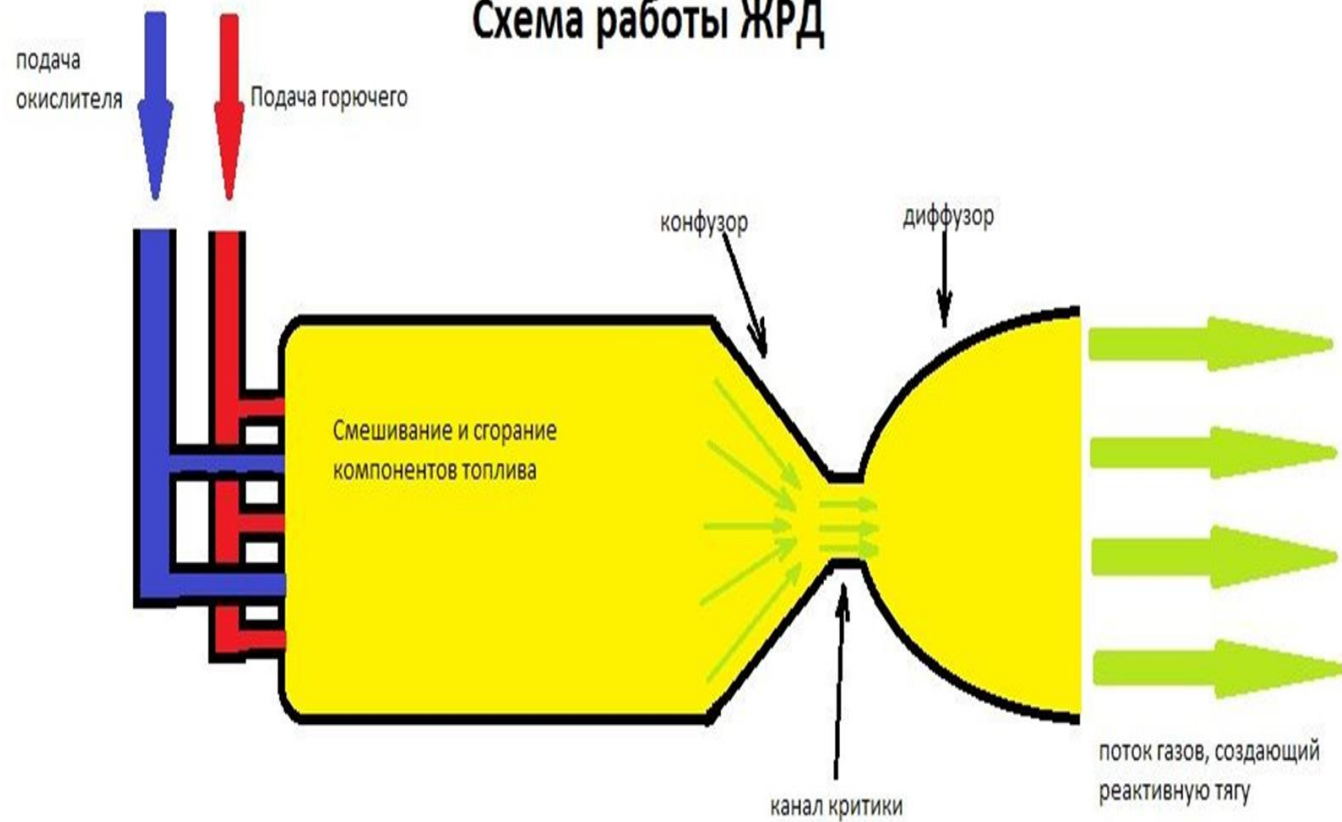
Encryption
Algorithm



Because of inertia you feel jerk when brakes are applied



Схема работы ЖРД



Формула Циолковского

$$V = S \ln \frac{M}{m}$$

V – конечная скорость ракеты
 S – скорость вылета рабочего тела
 M – начальная масса ракеты
 m – конечная масса ракеты

Топливо	S	V
Химическое топливо	5 км/с	12 км/с
Ионный двигатель	100 км/с	40 км/с
Ядерное топливо	13 000 км/с	30 000 км/с
Термоядерное топливо	37 500 км/с	100 000 км/с
Фотонная ракета	300 000 км/с	

ФОРМУЛА МЕЩЕРСКОГО

$$M \frac{d\vec{v}}{dt} = \sum \vec{F}_k^e + \vec{F}_R$$

\vec{F}_R – реактивная сила

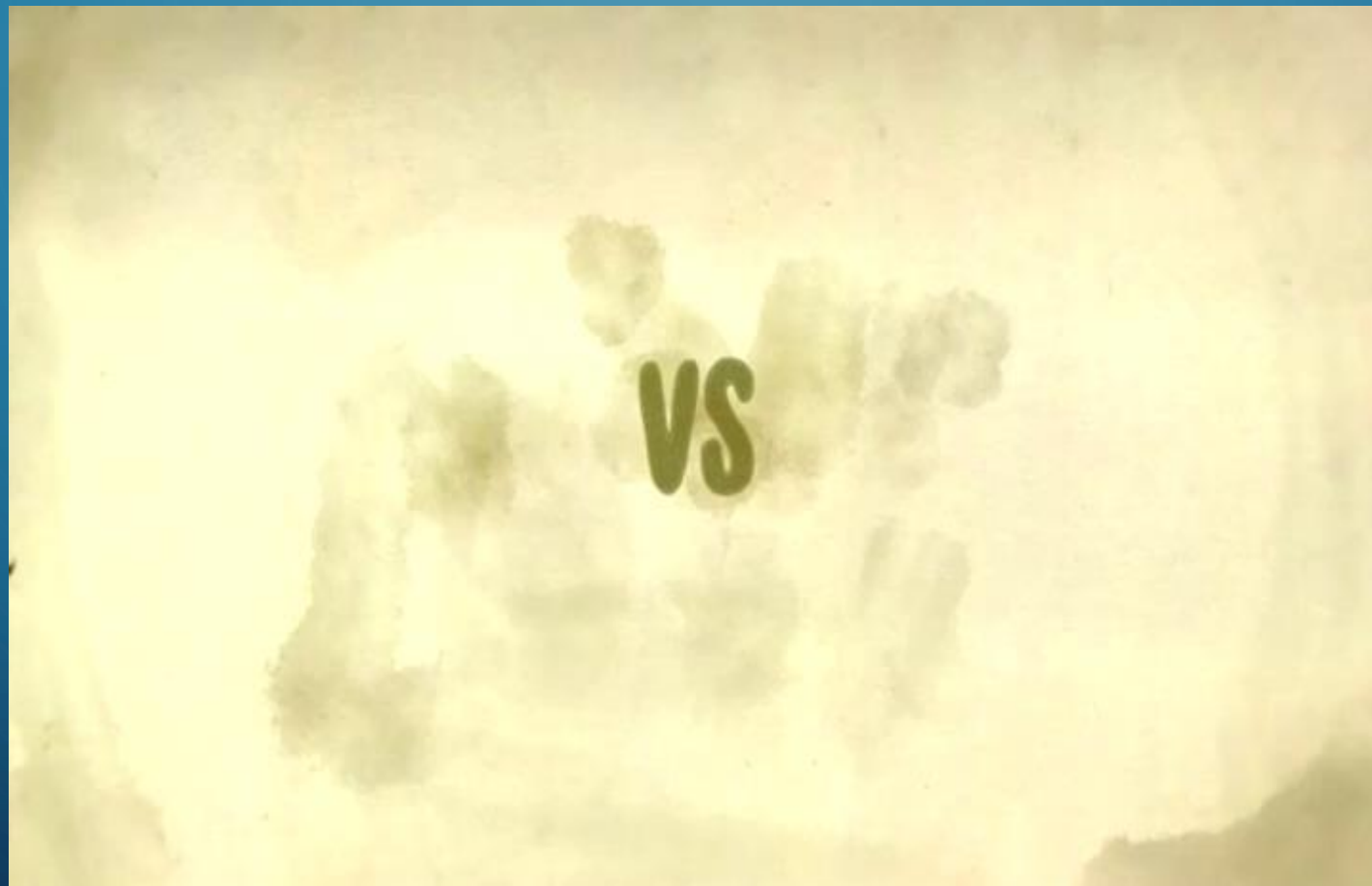


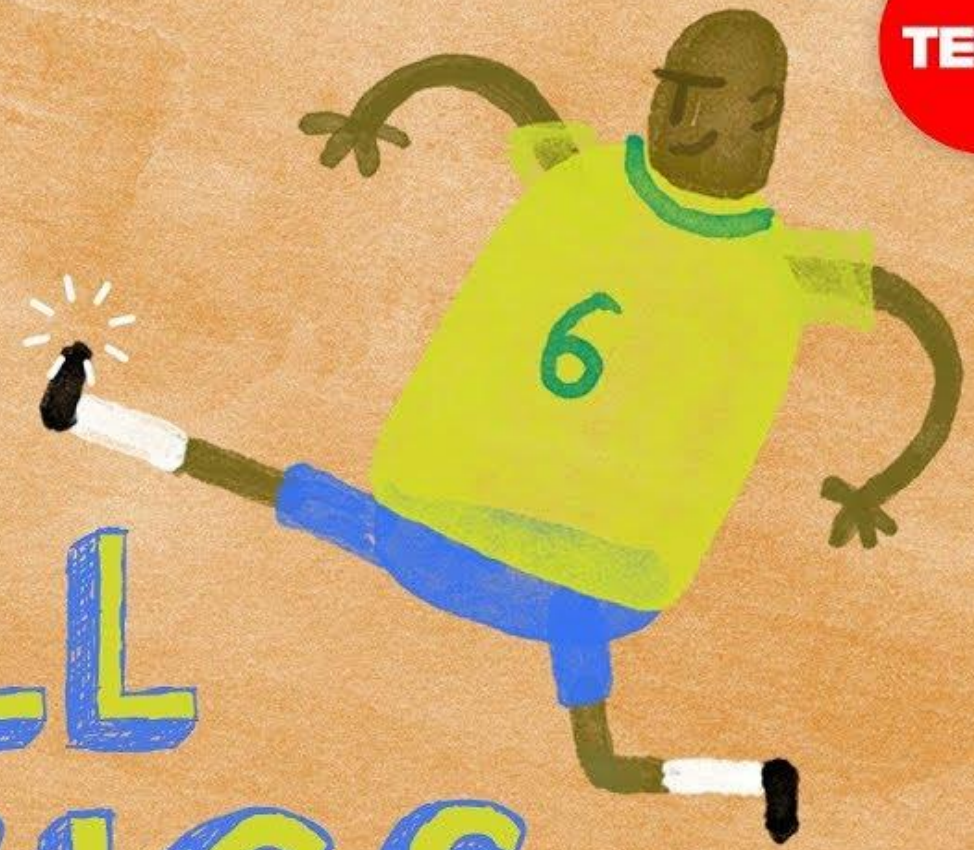
Иван Всеволодович
Мещерский



Константин Эдуардович
Циолковский

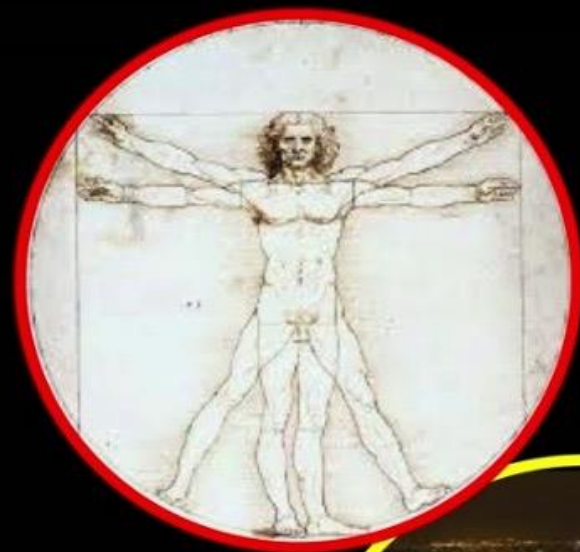
FOOTBALL PHYSICS: THE "IMPOSSIBLE" FREE KICK





FOOTBALL PHYSICS

THREE LIFE-SUPPORT SYSTEMS



What part of

$$\ln \Gamma(z) = \int_0^{\infty} \left[(z-1) e^{-t} - \frac{e^{-t} - e^{-zt}}{1 - e^{-t}} \right] \frac{dt}{t} \quad (\Re z > 0)$$
$$= (z - \frac{1}{2}) \ln z - z + \frac{1}{2} \ln 2\pi$$
$$+ 2 \int_0^{\infty} \frac{\arctan(t/z)}{e^{2\pi t} - 1} dt \quad (\Re z > 0)$$

don't you
understand?

I CAN
EXPLAIN
IT TO YOU
BUT I CAN'T
UNDERSTAND
IT FOR YOU

NEWTON'S 1ST LAW



A BODY AT REST
WANTS TO STAY AT REST.

PHYSICS QUIZ

1. When light bends as it enters a different medium the process is known as what?
2. A magnifying glass is what type of lens?
3. Electric resistance is typically measured in what units?
4. A person who studies physics is known as a?
5. Metals expand when heated and do what when cooled?
6. What is the first name of the famous scientist who gave us Newton's three laws of motion?
7. What state of the art computer technology is used to train pilots when wanting to copy the experience of flying an aircraft?

Refraction

Convex


Ohms

Physicist

Contract

Isaac

A flight simulator



8. Electric power is typically measured in what units?

Watts



9. The most recognized model of how the universe began is known as the?

Big bang

10. Who is the Hubble Space Telescope named after?

Edwin Hubble

11. The wire inside an electric bulb is known as the what?

Filament
Scotland

12. Theoretical physicist James Maxwell was born in what country?

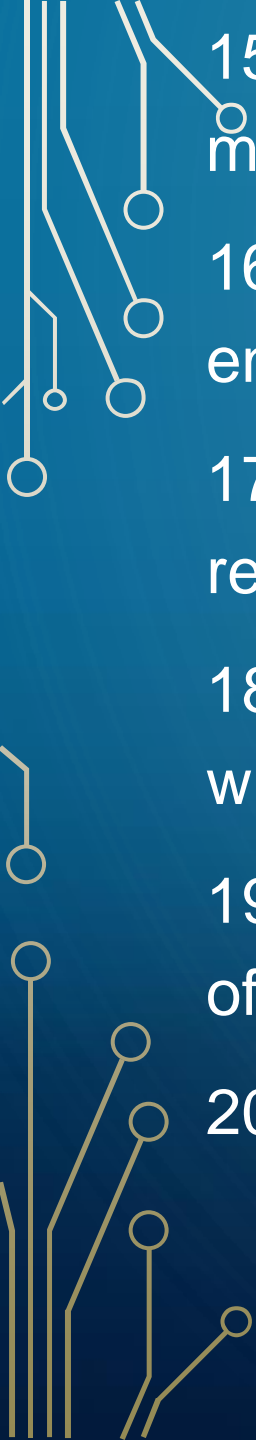
Long

13. Infrared light has a wavelength that is too long or short to be visible for humans?

A solar eclipse



14. What kind of eclipse do we have when the moon is between the sun and the earth?



15. True or false? Iron is attracted by magnets.

True

16. What is the earth's primary source of energy?

The sun

17. Conductors have a high or low resistance?

Low

18. Electric current is typically measured in what units?

Amperes

19. What scientist is well known for his theory of relativity?

Albert Einstein

20. Earth is located in which galaxy?

The Milky Way galaxy

