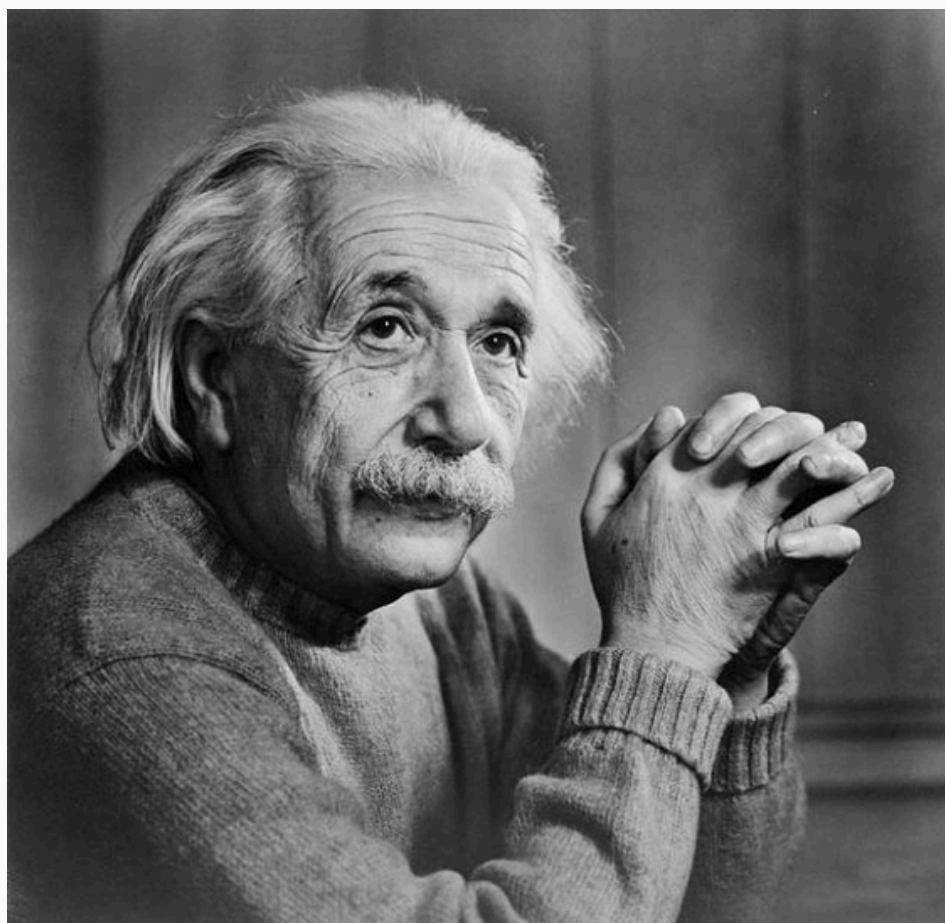


EINSTEIN'S THEORY OF RELATIVITY



**Developed by Albert Einstein
1907-1915 revolutionizing physics by
challenging Newtonian mechanics
at high speeds.**

$$(E = mc^2)$$

**This equation states that energy (E)
and mass (m) are interchangeable,
with c (the speed of light) acting as
the conversion factor.**

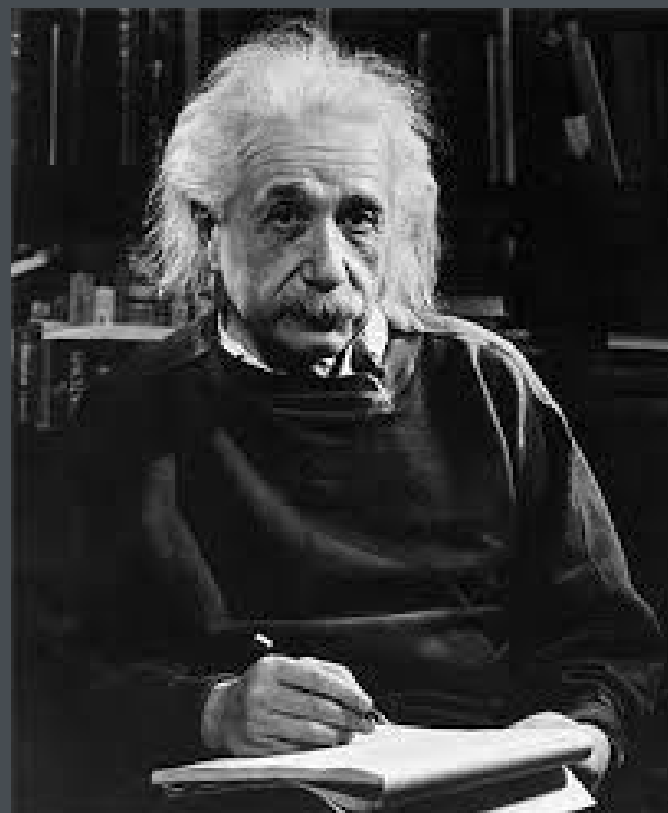
$$t' = t \sqrt{1 - \frac{2GM}{rc^2}}$$

**A clock in a strong gravitational field
(near a massive object) will tick
slower compared to one in a weaker
gravitational field.**

Real world application

**Relativity helps electromagnetism
make sense. Relativity is
fundamental to both forces.
Relativity's impact is significant.
Old TVs, semiconductors, GPS,
radar, and nuclear power all rely
on relativity.**

**Quora: How does the theory of relativity
contributes in our everyday life**



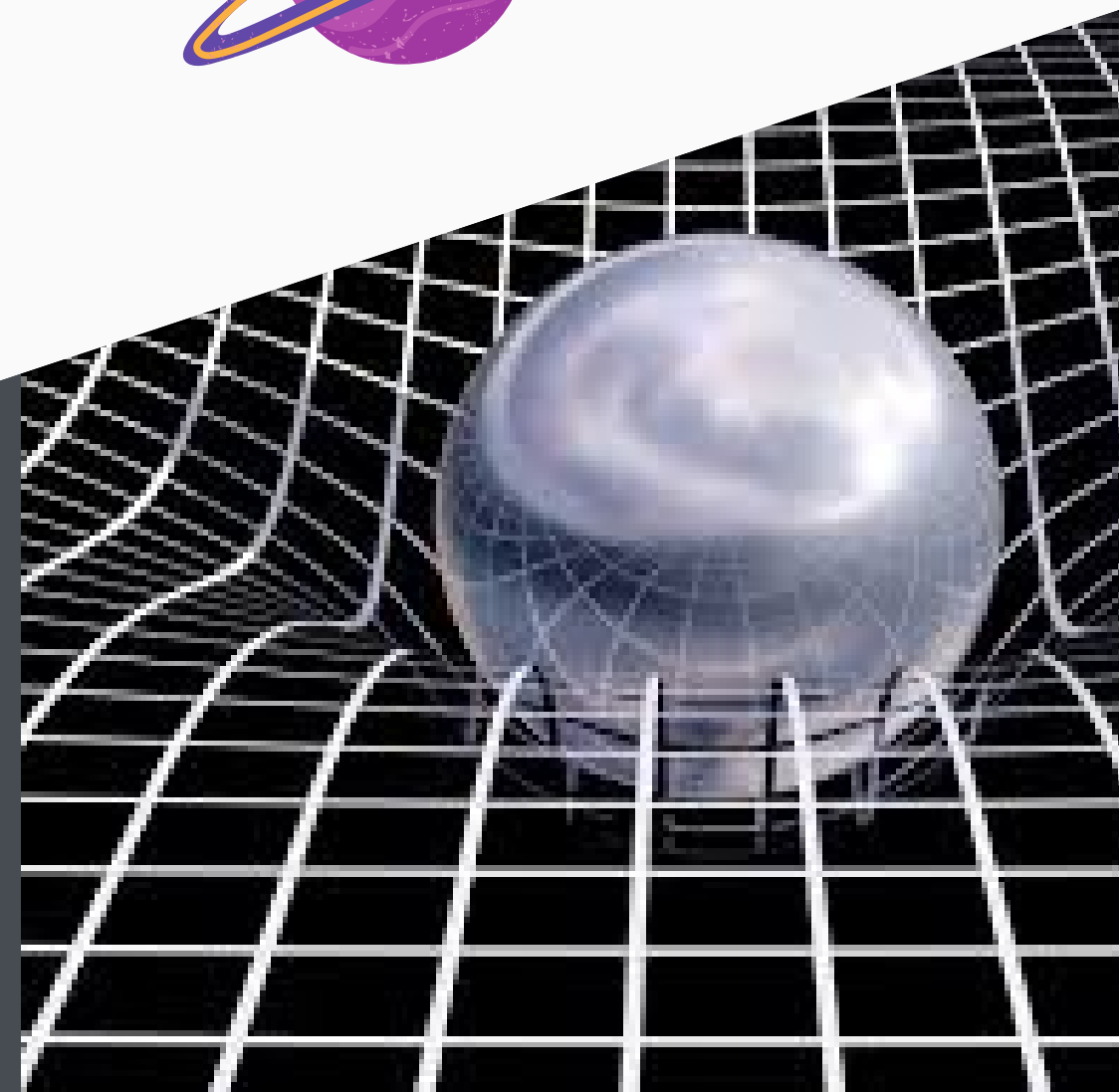
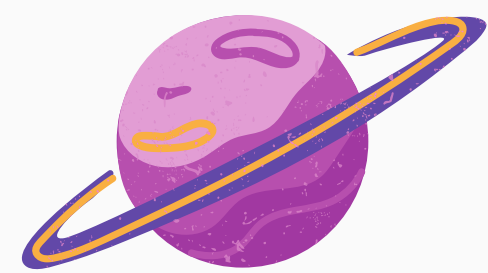
References

- Einstein, A. (1905). On the Electrodynamics of Moving Bodies.
- Einstein, A. (1915). The Foundation of the General Theory of Relativity.
- Eddington, A. (1919). Report on the Confirmation of the General Theory of Relativity.
- Carroll, S. (2019). Spacetime and Geometry: An Introduction to General Relativity.

Explanation:

**The laws of physics are the same
for all observers in any inertial
frame of reference relative to one
another, The speed of light in
vacuum is the same for all
observers, regardless of their
relative motion or of the motion of
the light source.**

Wikipedia: Theory of relativity



Impact on Science and Society

**Space Exploration: Understanding
relativity is essential for designing
accurate spacecraft navigation
systems**

**Fundamental Physics: General
Relativity remains crucial in modern
astrophysics, including the study of
black holes and the expansion of
the universe..**