March 9

Anything that has mass also has gravity. Objects with more mass have more gravity. Gravity also gets weaker with distance. So, the closer objects are to each other, the stronger their gravitational pull is.

Earth's gravity comes from all its mass. All its mass makes a combined gravitational pull on all the mass in your body. That's what gives you weight. And if you were on a planet with less mass than Earth, you would weigh less than you do here.

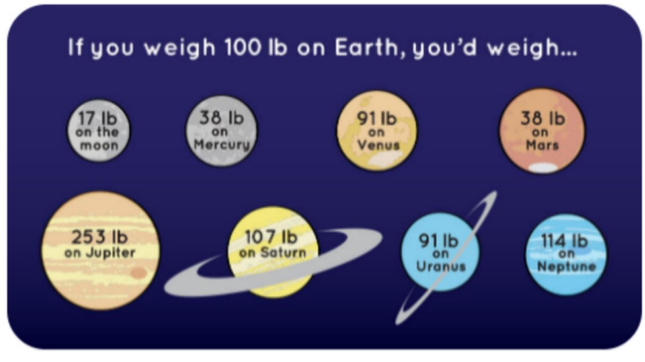


Image credit: NASA

You exert the same gravitational force on Earth that it does on you. But because Earth is so much more massive than you, your force doesn't really have an effect on our planet.

Universal Law of Gravity

Gravitational force between masses decreases with the distance between them, according to an inverse-square law.

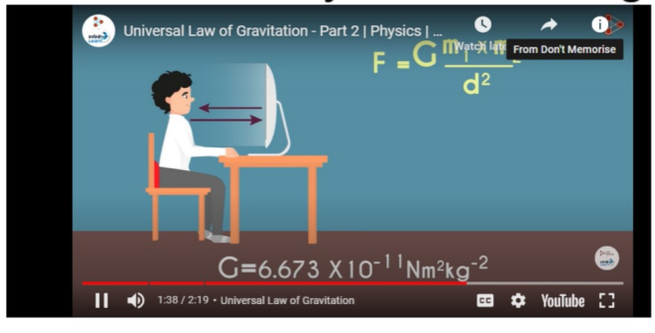
Basically -->Gravity also gets weaker with distance.

each particle attracts every other particle

$9.8m/s^2$

The Universal Law of Gravitation - Part 1 | Physics | Don't Memorise - YouTube

increase distance you decrease gravity



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Acceleration

What is Acceleration? (Physics in simple terms) - YouTube

is the rate at which velocity changes

-Measured in m/s^2

-Speeding up or slowing down

-Even if you keep the same speed but change direction then you have acceleration

$$Acc = \frac{V_{final} - V_{intial}}{\text{time to change}}$$