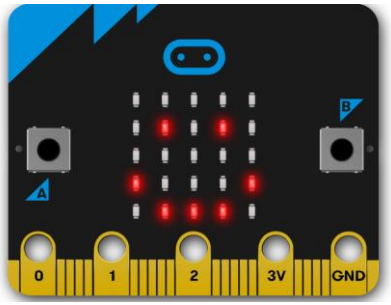
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And when the tree fell on Newton's head, he discovered gravity!





Not exactly! Firstly, the apple story is an urban legend, it didn't happen in real!



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Newton really watched an apple fall in his family estate, when he was there for quarantine due to the Great Plague.

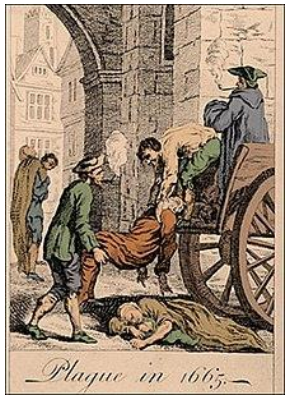




FIG. 87.—BIRTHPLACE OF NEWTON.



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People always saw that objects move downwards, but the explanations were not scientific.





Newton completed the work of Galileo! The one who said that the Earth moves and threw objects from the Tower of Pisa!

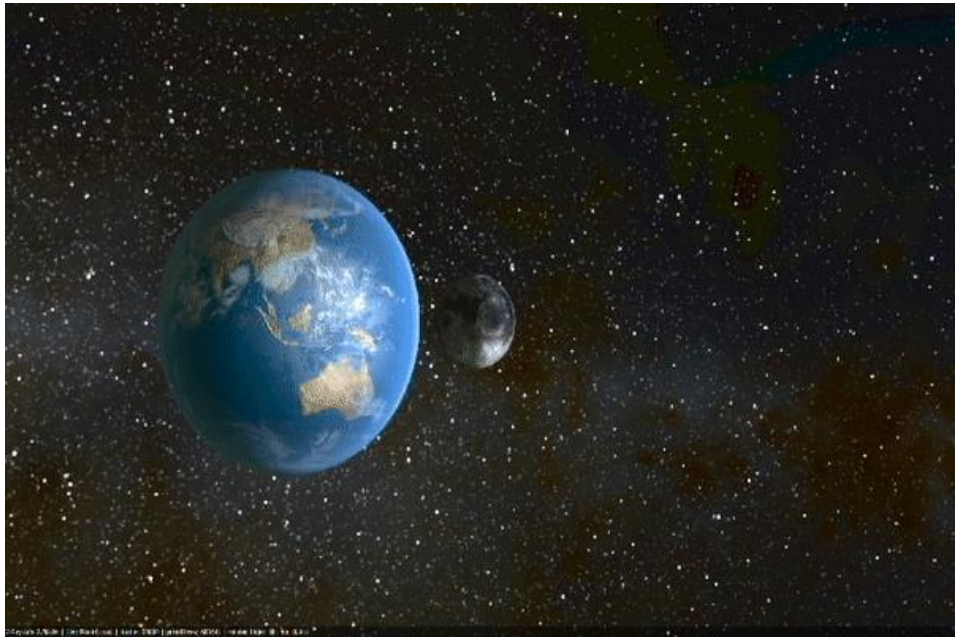


Exactly! Newton wondered why the apple falls vertically downwards. So, he succeeded to explain the free fall mathematically.



Well, this is also an urban legend! It is because Galileo was from Florence, which is near Pisa!

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What is amazing from Newton’s work is that he combined the earth physical laws with the space laws. So, The moon moves around the Earth due to the gravity, the same force that causes bodies to fall!

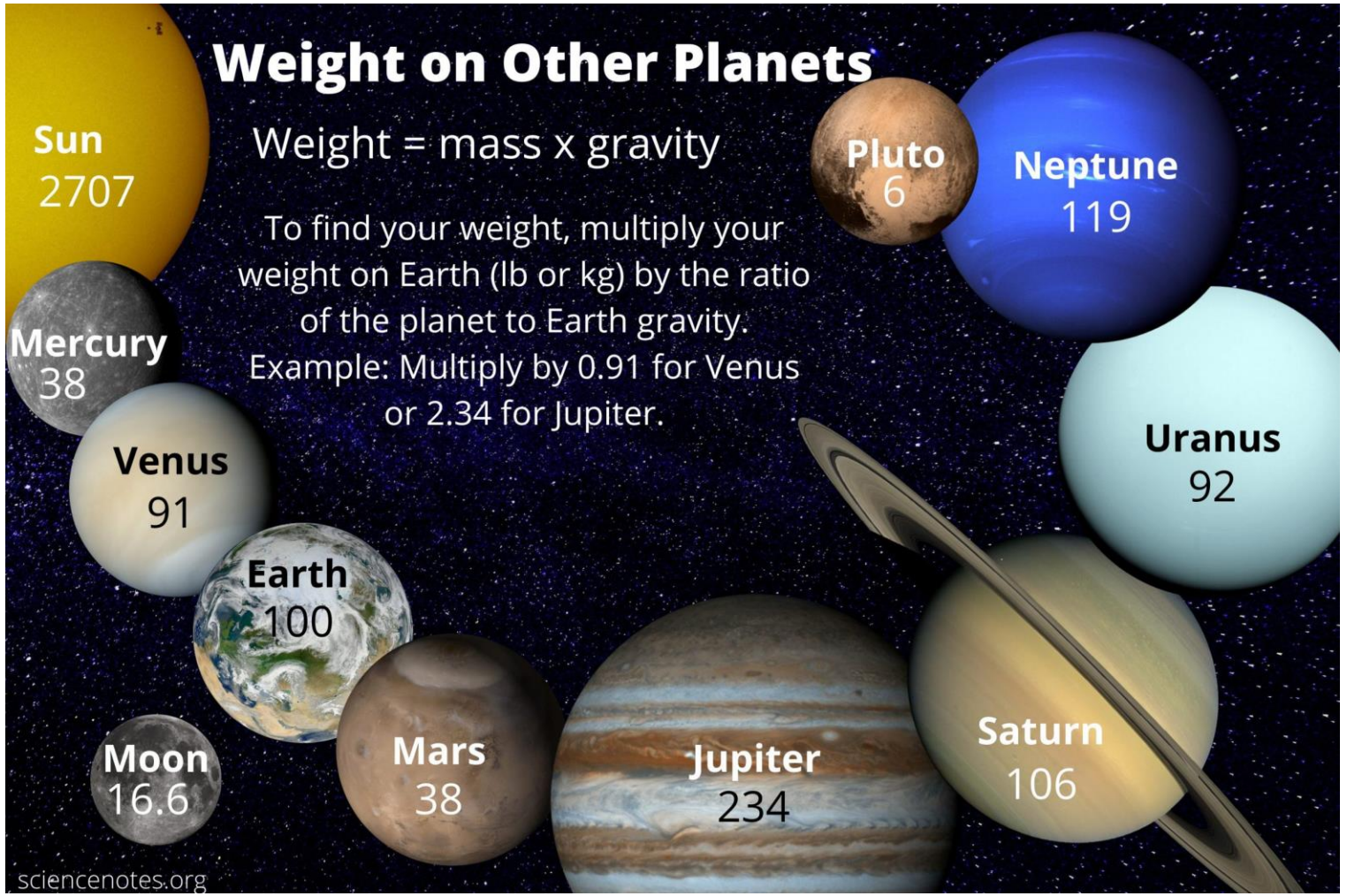


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The gravity on each planet is different. So, even though the mass is the same everywhere, the weight is different!





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Don’t analyze the mathematical equation, discuss it qualitatively.

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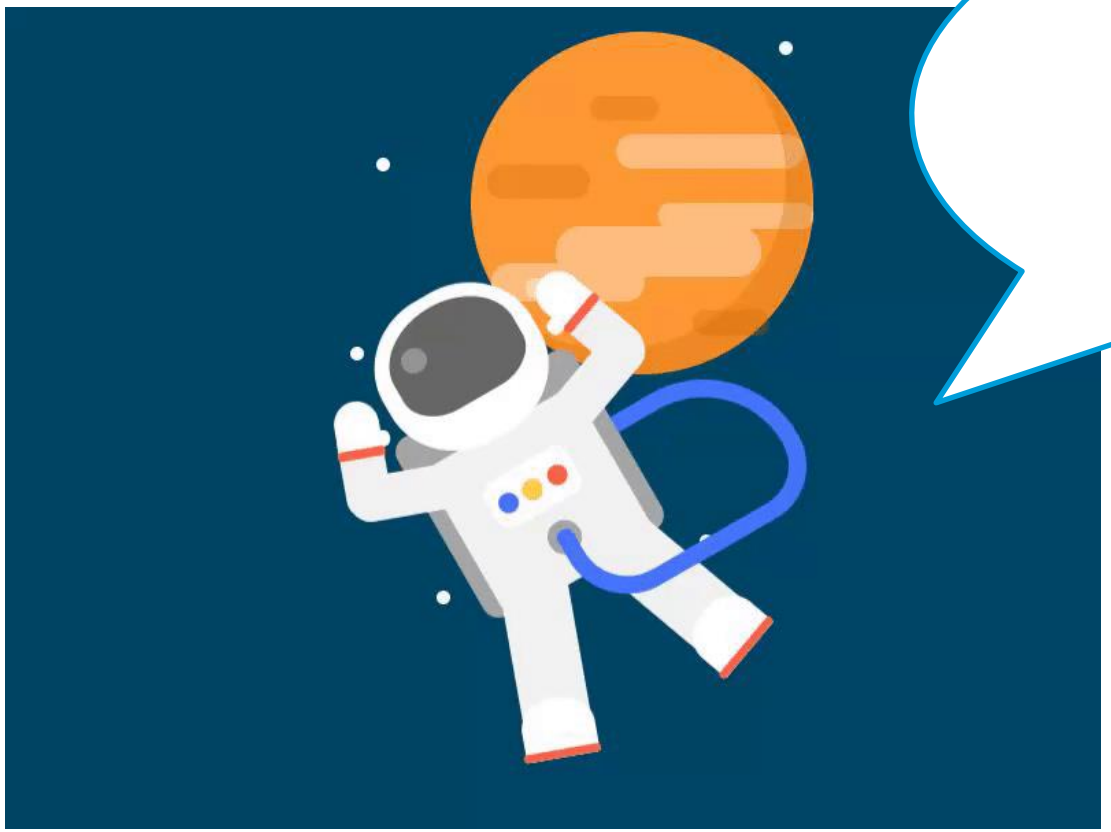
An experiment suggested by Galileo, was performed by David Scott when humans landed on the Moon for the first time. He left a hammer and a heather to fall simultaneously!





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Beware! The reason why they fall at the same time is because in the Moon there is no atmosphere.

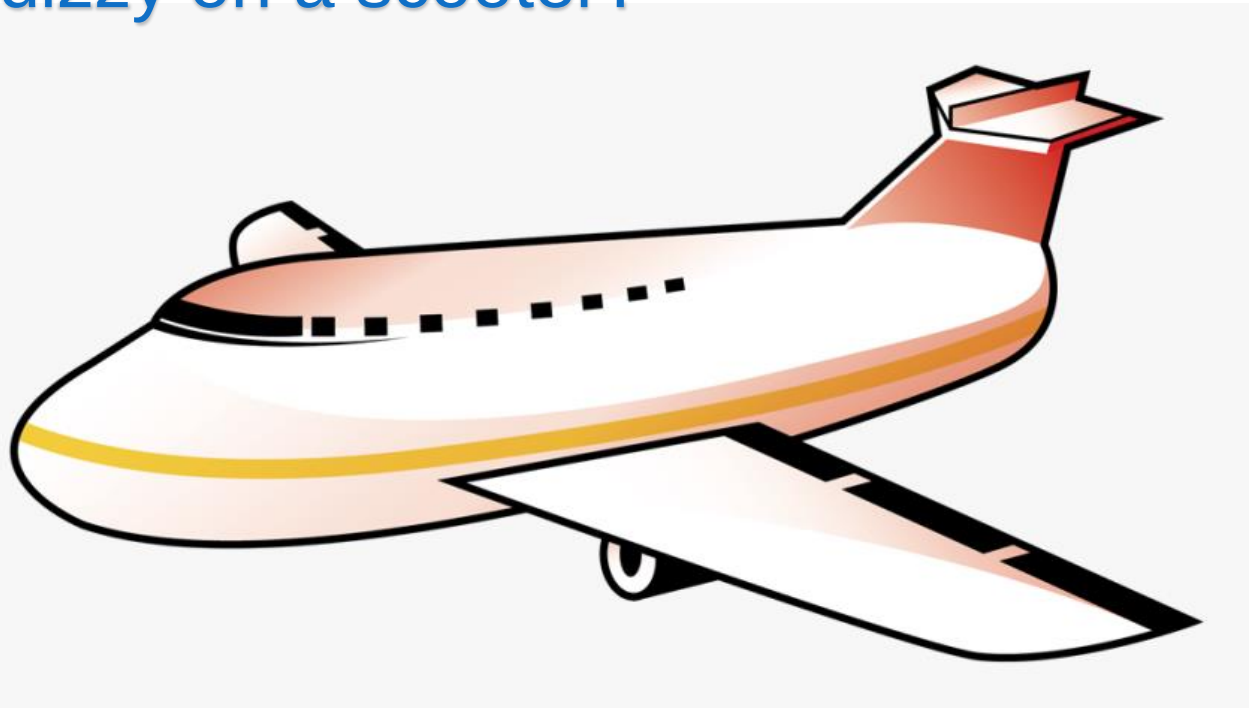


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But let’s return on Earth…
Do you know that in an airplane you can walk, even though you move with at a high speed, but you can feel dizzy on a scooter?



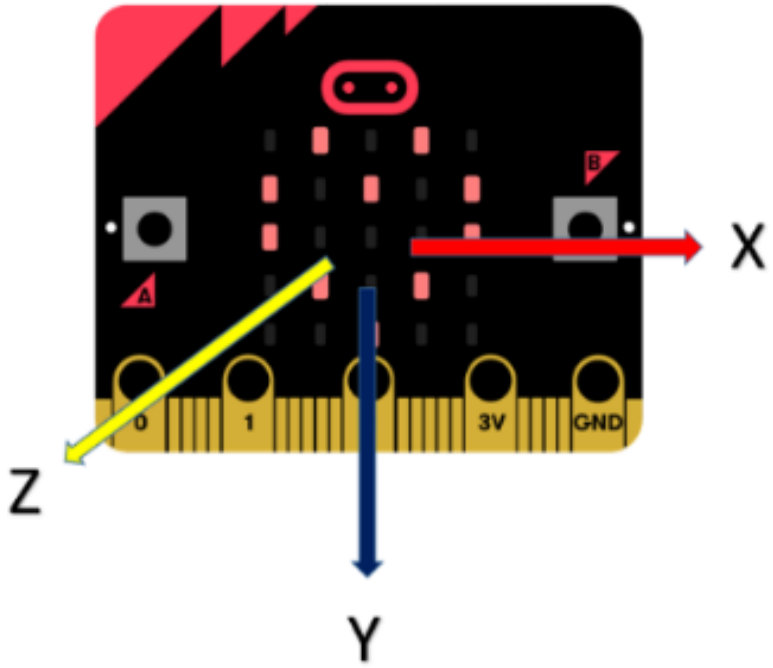
The reason is because our body doesn’t feel the speed, but its change over time.
This is called acceleration!

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The micro:bit we use measures the acceleration in the three axis.

In this way we can see how the acceleration is affected even in an axis we are not interested in





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Move on to the worksheet
and do the exercises all together.



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