

Newton's Laws

Isaac Newton 1642-1727

Quiz (NEWTON'S FIRST LAW)

No.	Answer	Comments
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Notes

Experiments

1. Define Newton's First Law

Discussion

What objects/vehicles obey or do not obey Newton's First Law?

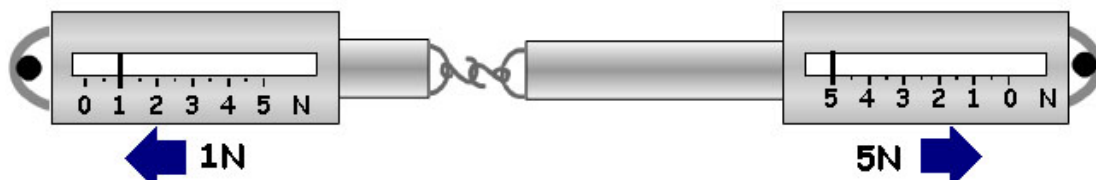
Quiz (NEWTON'S SECOND and THIRD LAWS)

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2. Define Newton's Second Law

Discussion What is the difference between mass and weight?

Exercise



In the above arrangement, if the mass of each spring-balance is 200 g, what will be the resultant acceleration?

3. Define Newton's Third Law

Discussion

Is Newton's Third Law always true?

Newton's Laws Problems/Homework/Test

Take $g = 10 \text{ m/s}^2$ and use $F = ma$ and $W = mg$

1. What is the weight of an 18kg solar power supply on Earth?
2. If the gravitational acceleration on the Moon is $1/6$ that on the Earth, how much will the power supply weigh on the Moon?
3. Two spring-balances/newton-meters are hooked together on a smooth horizontal surface. One of them reads 25 N, and if the both of them read accurately, what should the other one read?
4. A small satellite orbiting the Earth has a mass of 300 kg fires its rocket to go to a higher orbit. If the thrust from the rocket is 150 N, what will be the acceleration of the satellite?
5. What vehicles or objects can you think of that demonstrate Newton's First Law?