

To understand how Newton's Law of Universal Gravitation arose, which of the following ideas is necessary?

1. That a rapid horizontal motion can place an object into an orbit around the earth.
2. That the force should be proportional to the product $M_1 * M_2$ of the two masses it affects.
3. That the acceleration of the moon is much smaller than g .
- ✓ 4. All of the above are indispensable.

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The correct answer is #4,
because...

- To understand how the Law of Universal Gravitation arose from the known physics of Newton's time, already fashioned successfully to address the era's pressing questions, **EACH** of the elements listed is indispensable: without any one of them, Newton's Law could not have been formulated soundly and in its correct form.