

*Learn about Newton's apple-story*

### **Material:**



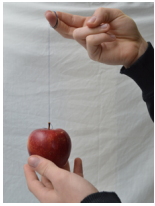
- apple
- a ribbon
- scissors

### **Instruction:**

Tide the ribbon to the apple.



Make the apple be about 10 cm over a table by holding only the ribbon, which is tide to the apple.



Take the scissors and cut the ribbon. What happens and why?



### Explanation:

The apple falls down. This effect is not very unexpected by why does the apple fall. As we learned in the Wiki-article about force, object does not move or stop moving without being influence by a external force. But in our room is nobody, who pulls our apple to the ground. We do not even touch the apple. This fact leads us to the thesis that there is a force, which influence the things around to fall. This force is called gravitation and it is caused by our planet earth. Every planet has a gravitation field which depends on its mass. Therefore our planet is surrounded by a gravitation field which make the things on the planet fall and makes us not fly away. Newton was one very famous physicist who dealt with gravitation and there is also a nice story about his experience with gravitation. Read more about below.

### Newton's apple

Isaac Newton was sitting under a apple tree in summer and studying. There was an apple hanging at the tree right above Newton's head, when suddenly the apple fell on his head.

Newton was hurt and surprised at the same time. The apple was hanging and was not accelerated by anything. So why was it suddenly accelerated right onto his head? Newton's thesis was that there has to be force field around the planet, which influences everything which is within this field, so also the apple. He called the field: "Gravitation" and created mathematical formulas, which describe the way this field behaves and influences the things around.