Sir Isaac Newton and the apple

SIR ISAAC NEWTON was a great thinker. No other man of his time knew so much about the laws of nature; no other man understood the reasons of things so well as he. He learned by looking closely at things and by hard study. He was always thinking, thinking.

Although he was one of the wisest men that ever lived, yet he felt that he knew but very little. The more he learned, the better he saw how much there was still to be learned.

When he was a very old man, he one day said: "I seem to have been only like a boy playing on the seashore. I have amused myself by now and then finding a smooth pebble or a pretty shell, but the great ocean of truth still lies before me unknown and unexplored."

It is only the very ignorant who think themselves very wise.
One day in autumn Sir Isaac was lying on the grass under an apple tree and thinking, thinking, thinking. Suddenly an apple that had grown ripe on its branch fell to the ground by his side.

"What made that apple fall?" he asked himself.

"It fell because its stem would no longer hold it to its branch," was his first thought.

But Sir Isaac was not satisfied with this answer. "Why did it fall toward the ground? Why should it not fall some other way just as well?" he asked.

"All heavy things fall to the ground—but why do they? Because they are heavy. That is not a good reason. For then we may ask why is anything heavy? Why is one thing heavier than another?"

When he had once begun to think about this he did not stop until he had reasoned it all out.

Millions and millions of people had seen apples fall, but it was left for Sir Isaac Newton
to ask why they fall. He explained it in this way:—

"Every object draws every other object toward it.

"The more matter an object contains the harder it draws.

"The nearer an object is to another the harder it draws.

"The harder an object draws other objects, the heavier it is said to be.

"The earth is many millions of times heavier than an apple; so it draws the apple toward it millions and millions of times harder than the apple can draw the other way.

"The earth is millions of times heavier than any object near to or upon its surface; so it draws every such object toward it.

"This is why things fall, as we say, toward the earth.

"While we know that every object draws every other object, we cannot know why it does so. We can only give a name to the force that causes this.

"We call that force GRAVITATION.

"It is gravitation that causes the apple to fall.
"It is gravitation that makes things have weight.

"It is gravitation that keeps all things in their proper places."

Suppose there was no such force as gravitation, would an apple fall to the ground? Suppose that gravitation did not draw objects toward the earth, what would happen?

To you who, like Sir Isaac Newton, are always asking "Why?" and "How?" these questions will give something to think about.