

Proteins



You must have wondered what good a glass of protein shake or a protein breakfast can make to your body. Well, it proves to be vital to kick-start your day giving you that immediate boost.

When we eat food, the digestive juices in our body start functioning. They break down the food into basic units called amino acids. These units are attached to one another in long chains. There are 20 different types of amino acids that can be combined to make a protein.

How do proteins benefit our body?

Proteins build up, maintain and replace the tissues in our body. Our muscles, organs, immune system are mostly made up of protein. Proteins help in making haemoglobin, a vital constituent of blood. It also helps in proper functioning of our heart. Proteins serve as structural components that give our body parts their shapes. They are essential for cell maintenance and repair.



What foods provide us proteins?

Proteins are described as diet proteins, complete proteins or incomplete proteins. A balanced diet supplies all the protein we need. Meat, eggs and dairy products are excellent sources of complete protein. We also get protein from a variety of grains, legumes, nuts and seeds.



How much should be our daily intake of proteins?

Kids should have about 35 grams of protein everyday while adults need approximately 60 grams of proteins per day.

How do we know if we are getting enough proteins?

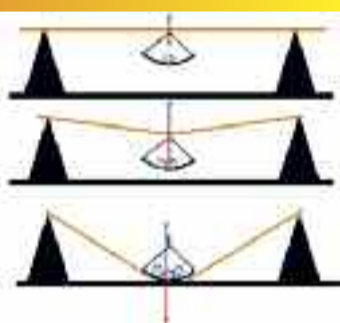
Lack of sufficient protein leads to cellular imbalance. This directly affects the growth, maintenance and specific functions of the body. Protein deficiency leads to various degrees of growth retardation among children.

EVERYDAY SCIENCE

Weight

What is weight?

Weight is the gravitational force acting on an object. On earth's surface, an object's weight is the gravitational force of Earth pulling the object down. E.g. when we say that a person weighs 50 kilos, that means the Earth's gravity is pulling down on that person with a force of 50 kilos.



What factors influence weight?

Weight is a measurement of the force of gravity. The weight is actually a force that affects an object. It is experienced when an object is either pulled or pushed in directions according to the location of the object. This pull is a result of the attraction between the object and the surface of the location, e.g. the earth's surface and a human body. The astronauts, who travel in space on board a spacecraft, have a different weight on Moon or Mars because the gravitational force varies.

How is weight measured?

Weight is usually measured in kilograms, grams, milligrams, pounds, Dan Newtons, etc. Weight should be measured in the direction component known as Vector. This direction is normally downward due to gravity. A direction component of weight can also be sideways, such as the force of a car hitting a wall. Weight, thus depends upon the application of force on a particular object.



Dancing Ice

Things you will need:

- A tall glass or plastic container
- Some vegetable oil
- Ice (try making some ice cubes with coloured water using food colour so that it is clearly visible)

Procedure:

1. Fill the glass with oil.
2. Drop a block of ice into the glass.
3. The ice should float in the middle of the oil. Watch the ice as it melts.

What happens?

You will find drops formed on the oil. As the drops form and fall, the ice will rock from side to side and move up and down.

Why does it happen?

Both the ice and oil have almost the same density. Therefore, the block of ice dropped into oil will barely move. But as the water melts, it turns into denser, liquid water. The water tends to stick to the ice for a while before it drops off. When there is enough water on the ice, the ice sinks due to the density of water. Once the drops of water on the ice fall off, the ice floats up again. This sinking and floating movement appears as if the ice block is actually dancing!

