timefornano

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from 8 years

how tall are you?

You will need

- The 'how tall are you in nanometres' height chart

What you can do

How many nanometres are there in your height?

- Fix the height chart vertically on a wall.
- Lean your back against the height chart and stand up straight.
- Get one of your friends to mark your height on the chart.

How tall are you in nanometres? In metres?
Are you super tall or is a nanometre super small?

- A human hair is between 0.1 and 0.05 mm wide

How much is a human hair in nm?
Can you think of objects as small as 100 nm, 10 nm, 1 nm and even smaller?

What's happening?

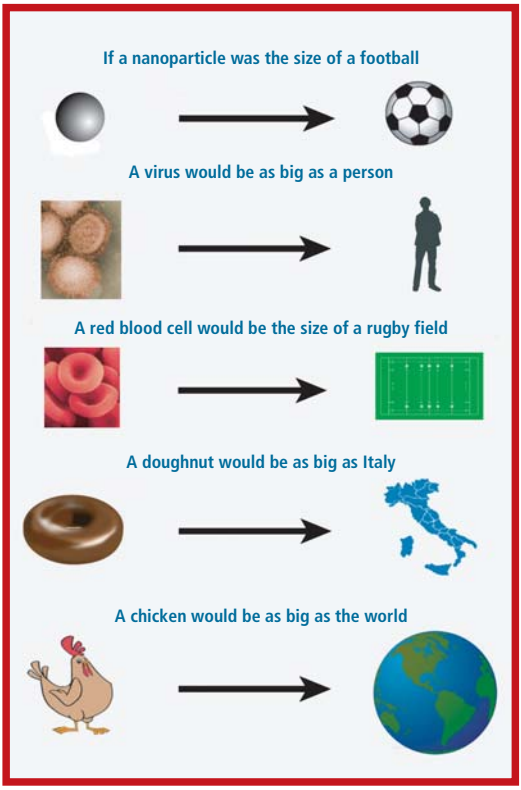
There are 1 000 000 000 nanometres (nm) in a metre. A nanometre is a unit for measuring very tiny objects such as **atoms** or **viruses**. It is much easier to say that a virus is 20 nm long than 0.000 000 02 m long!

Why nano is important?

Modern science and technology can investigate and manipulate objects as small as a few nanometres (nano-objects). Special tools and equipment are needed to work with these objects. Regular tools are too big.

At the nanoscale, many common materials have unusual physical or chemical properties.

Through nanotechnologies scientists and engineers can make new materials and tiny devices. For example smaller and faster computer chips or new medicines to treat diseases like cancer.



To find out more

- http://www.discovernano.northwestern.edu/index_html
- http://www.understandingnano.com/nanotech-applications.html
- http://www.generation-nano.org/

What does it mean?

An **atom** is the smallest component of matter. Chemical elements (for example iron, carbon or oxygen) are made up of a single type of atom, whereas chemical compounds are made of two or more different types of atom. There are more than a hundred different elements, and 94 of them occur naturally on Earth.

A **cell** is the basic structural unit of all living organisms.

A **virus** is a nanometre-sized infectious agent that needs to infect a cell in order to reproduce. Viruses cause diseases such as the common cold, influenza and AIDS.

Cancer is the name given to any illness resulting from one of our body's own cells reproducing out of control.