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NANO (The Nanoscale

Nanoscience is the science of the very small. Nano is the prefix for units that are 10⁻⁹ in dimension. A nanometre is a billionth of a metre (a millionth of a millimetre). The nanoscale is normally defined as lying between 1 nm and 100 nm.

DNA ~2.5nm diameter		μm ~ 8	Hair Flea Flea γ 30 μm ~ 3 mm vidth length	
1 nanometre	1 micro	ometre	1 millimetre	1 metre
10 ⁻⁹	10 ⁻⁶		10 ⁻³	10 ⁰
D ⁻⁹ m Macromolecules Carbon buckyball (diameter~1nm)	Carbon nanotubes	Virus (diameter 50 nm	10 ⁻⁸ m Nanowire (diameter 50 - 100n	10 ⁻⁷ m Visible spectrum m) (wavelength 380-740nm)
1 nm	10 nm	10 nm		1000 nm
Nanoscience deals with clusters of atoms and molecules. 3.5 gold atoms These assemble into nanomaterials, which have at least				

Nano in Nature

one dimension in the nanoscale.

Did you know? The unique properties many animals and plants possess are due to nanostructures that exist within them!

The beautiful colours of some butterflies and moths arise from nanostructures on their wings.





Image credit: A.Kellar Lewis & Clark College

nage credit: S. Yoshioka, Osaka University, Jap

Geckos can walk upside down, even on wet and dirty surface. Their feet aren't covered with adhesive. They are covered in millions of nano-spatulae that greatly increase their surface area!

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