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## Review

### Nanomaterials: Materials with immense potential

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#### ABSTRACT

*Science of nanomaterials has emerged to become a frontier area of research due to their novel properties and potential applications. Nanoscience is based on the recognition that particles less than the size of 100 nanometers exhibit new properties and behaviour. The nature and properties of matter on the nanoscale are dramatically different from their bulk form. Bulk materials have fixed properties regardless of their size. But nanomaterials have size and shape dependent properties which make them totally different from bulk materials. Some nanostructures include quantum dots, nanoparticles, nanorods, nanowires, nanobelts / nanoribbons, nanosheets, core/shell nanostructures and carbon nanotubes etc. Different aspects of nanoscience have been discussed in this article in nut shell. Why changes in the properties occur when the size of the materials reduced down to the nanometer range has also been discussed. Lastly, some applications of nanomaterials have also been delineated.*

**Keywords:** Nanoscale, Nanomaterials, Nanostructures, Quantum dot, Sensor.

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