

**The Characteristic:**

Zinc oxide and titanium dioxide nano-sized particles in suntan lotion stop the undesirable whitening effect usually found with high-protection sun care products. These nanoparticles make the lotion transparent, so the user tends to repeat its application more frequently. This helps in getting higher UV protection.



**Application:**

Certain minerals have been made nano-sized and put into the lotion, making them invisible to the naked eye and more easily absorbed, offering longer lasting protection from harmful UV rays.



**The Characteristic:**

Special paint which contains nano-sized particles of silicon makes the surface of a wall non-absorbent. The particles are water repellent and oil repellent. This means that any graffiti sprayed onto the wall will not hold and can be brushed or washed off easily.



**Application:**

Anti-Graffiti paint has been developed using nano-sized particles. These particles are water and oil repellent and coat the wall making it non-absorbent.



**The Characteristic:**

Carbon Nanotubes have many interesting properties. For example, they are stronger than steel yet considerably lighter and flexible. These tiny structures have been added to other materials to make a composite which can exploit all these characteristics.



**Application:**

They are already being used with others materials to make lighter but considerably stronger composites. One of their uses has been for sports equipment, like tennis racquets and golf clubs.



**The Characteristic:**

Nature is already an expert at making interesting nanoscale features. A gecko's feet for example are covered in nanometre-sized hair-like structures. These structures can get so close to the surface that weak 'sticky' interactions between the molecules on the surface and those on the gecko's feet become significant. This allows the gecko to walk upside down on the ceiling.



**Application:**

Drawing inspiration from nature, scientists looked at the nanoscale features on gecko's feet and tried to emulate them by creating tiny structures that could act like very powerful sticky tape. This tape could be used in such applications as internal bandages and even spiderman gloves!

