

Scratch-proof

It's a real pain when your mobile gets scruffy and scratched – especially when you can't read the screen.

The latest models make big claims for a **new protective coating**. But is it too good to be true?

You'll be reporting on the phone for a magazine advice page. Look at "The Science" and summarise the facts.

You'll need to answer 2 questions:

How can plastic be harder than metal?

Why does dirt rub off it so easily?

The very latest in smartphones

Scratch-proof screen

Dirt and pen marks wipe off easily

Keeps its looks 100 times longer!

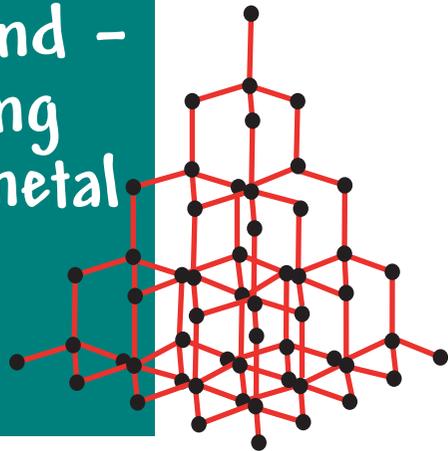


The Science

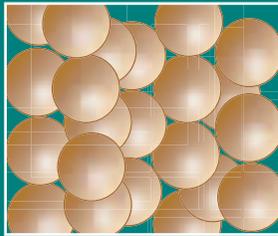
What makes a material hard?

The particles in hard materials, like diamond and metals, are fixed together tightly in organised crystals. They stand up to pressure and can't be scratched.

Diamond –
a strong
non-metal



Iron – a
strong metal



The particles in soft materials, like plastic, are loosely stuck together. It doesn't take much force to make them shift out of place. This leaves a dent, or a scratch in the surface.

What makes materials non-stick?

Non-stick materials don't let liquids get a grip on their surfaces. They stop water spreading out because their particles repel water molecules.

The water tries to get away by rolling into a ball.



Many plants have non-stick surfaces. Drops of rainwater run off easily and carry dust and dirt away. This stops layers of dust building up that would block out the sun.

Some plastics are designed to repel water molecules. Those with fluorine in them work best.

Style

Tired of damaged phone screens ruining your image?

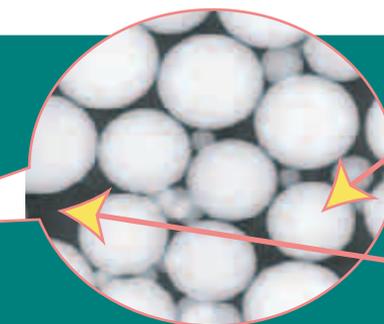
Scratches can be a thing of the past. Here's why....



We rate it!



What's so special about this new protective coating? It's all in the design. To see how it works we put it under the microscope.



Under the microscope

Silica beads with diamond-like crystals

Non-stick plastic

The plastic is harder than metal because....

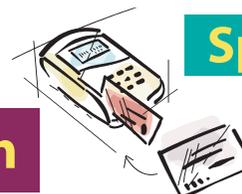
Dirt rubs off it so easily because



Durable



Tough



Spotless

