

# Invisible Sunblock

What's in your sunblock?

## Description

In this activity, kids find out why some mineral sunblock rubs in clear.

Suitable for kids ages 5 and up.



## Materials

Black construction paper

Cotton swabs

Zinc oxide diaper cream

Nano zinc sunblock

**Note:** You can find a nano zinc sunblock by looking for a formula with zinc oxide that says it goes on clear.



## Time

**Preparation:** 5 minutes

**Activity:** 5 minutes

**Cleanup:** 5 minutes

## Safety

Use normal precautions while doing this activity. If you have sensitivities or allergies to lotions, ointments, or sunblocks, don't apply these products to your skin.

# Step 1

Use a cotton swab to put a very small dab of diaper ointment on the black paper. Try rubbing it in.



# Step 2

Now use a different swab to rub in a dab of the sunblock. Is it easier to rub in than the ointment?

**TIP**

Try to use the same amount of sunblock as ointment



## What's going on?

The sunblock rubs in better than the ointment, because it contains tiny, nano-sized particles of zinc oxide. (A nanometer is a billionth of a meter.)

The nanoparticles of zinc oxide are so small that they don't reflect visible light, making the sunblock transparent on skin.

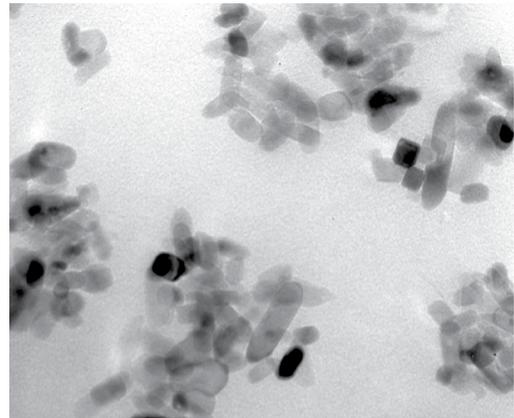
The ointment also contains zinc oxide, but the particles are much bigger. These larger zinc oxide particles do reflect light, so they create a white film.



## How is this nano?

Sunblock containing nanoparticles is one of the most common examples of nanotechnology. Many other health and beauty products also contain nano-sized particles, including cosmetics and toothpaste.

Labels don't have to say what size their ingredients are, so you could use a product containing nanoparticles without knowing it. Does that surprise you?



Nanoparticles in sunblock

## Nanoparticles

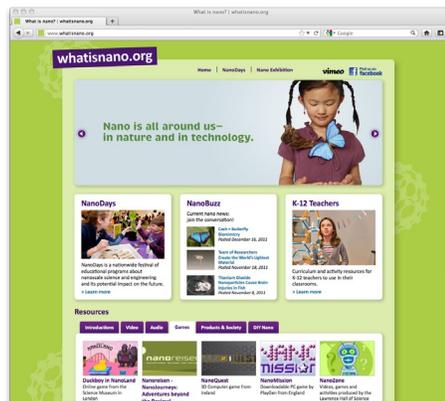
Nanotechnology takes advantage of the way things behave differently at the nanoscale to make new products and applications.

The nanoparticles in sunblock are invisible to the human eye because they're smaller than the wavelength of visible light.



## Learn more

Learn more at:  
[www.whatisnano.org](http://www.whatisnano.org)



## Credits



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Activity photographs, Gary Hodges Photography