

# Nano-products in the News

## We already use them every day!

Many of us don't realize how many things we frequently use: sunscreen, eye glasses, clothing, and food containers, use nanotechnology. While many of these products make our lives easier or safer, as consumers, we need to carefully evaluate these technologies to make sure there aren't any unexpected side effects. In this WebQuest, you will explore some of these nano-products and the issues surrounding them, especially relating to the antibacterial silver demonstration you may have seen at a science museum near you.



*Time: 45 minutes. Parents, please supervise children and the content they view via internet research.*

*Recommended age: 12-14 years old*

## Goals:

- Identify some common consumer goods that use nanotechnology
- Investigate any health, environment, or ethical issues surrounding these products
- Examine antibacterial nano-silver and current U.S. legislature attempting to regulate it

## Activity: WebQuest

Before beginning this WebQuest, it's important to understand what nanotechnology is. One good definition can be found here: <http://www.nano.gov/html/facts/whatIsNano.html>. Using this link or other good sources that you find, write a definition of nanotechnology using your own words below:

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Using the navigation tool bar on the left of the link above, you can find "Applications & Products" on the NNI website. These are just some of the applications for nano-technology. However, today we're focusing on applications that can be found in consumer goods. An inventory of these consumer goods can be found here: <http://www.nanotechproject.org/inventories/consumer/browse/categories/>. Skim some of the products listed on this site. Below, list three products that you were surprised to see. Also, list why you were surprised that they used nano-technology.

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\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
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Great! Now that we know a little about what nano-technology is and where we can find it, we can narrow down our investigation. On the Project on Emerging Nanotechnology website, go to the search function of their consumer inventory and search using the key word "silver" (<http://www.nanotechproject.org/inventories/consumer/search/>). How many products did you find that claim to use nano-silver technology? \_\_\_\_\_

What characteristics do these products share? Is the nano-silver being used for the same purpose in most of these products? What purpose is this? Go to this site: [http://www.silverinstitute.org/medical\\_applications.php](http://www.silverinstitute.org/medical_applications.php) to help answer this question.

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The Silver Institute link above is associated with people and businesses that produce and sell silver. What kind of bias might they have? \_\_\_\_\_

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Can you think of any health or environmental concerns that people might have about nano-silver?

Some people are worried that nano-silver will leach out of these products and be harmful to humans and to the environment. They worry that the nano-silver will not only kill harmful bacteria, but also the good bacteria that we need to stay healthy and maintain a balanced eco-system. These people want government agencies like the Environmental Protection Agency (EPA) to stop companies from selling these types of products, at least until more research on their impact can be done. Read the two articles linked to below that talk about the different sides of these issues. Then, decide what you think consumers should do. What is the best way to resolve this conflict?

<http://www.washingtonpost.com/wp-dyn/content/article/2008/05/01/AR2008050103228.html>

<http://www.silvermedicine.org/nano-silver.html>

**References:**

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