

# Exploring Tools—Mitten Challenge

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*What's the right tool  
for the job?*



**NanoDays™**  
The Biggest Event  
for the  
Smallest Science!

[whatisnano.org](http://whatisnano.org)

## Exploring Tools—Mitten Challenge

### Try this!

1. Put on a pair of oven mitts.
2. Try to build a house out of the bricks, like the one shown in the picture. (Or build an idea of your own using the bricks.)
3. Now try building without the mitts. Is it easier or harder?



### What's going on?

It's difficult to build small things if your tools are too big! Your fingers are just the right size for building with toy bricks. Oven mitts cover your fingers and make your hands bigger, so you can't work as easily or precisely wearing them. Like everyone else, scientists and engineers need the right size tools for the job.

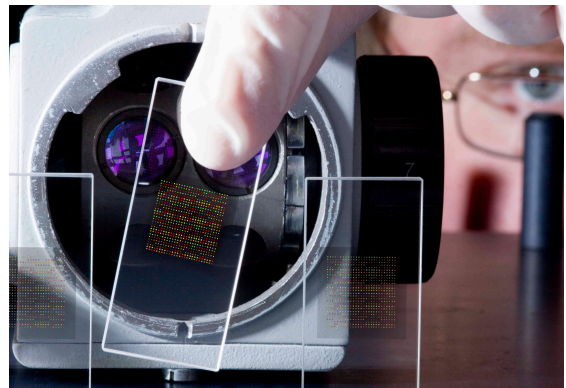
In the field of nanotechnology, researchers study and make tiny things that are measured in nanometers. A nanometer is a billionth of a meter. That's very, very small—the size of atoms and molecules, the building blocks that make up everything in our world.

Moving atoms around with regular tools is kind of like trying to build something out of toy bricks with oven mitts on your hands! As the new field of nanotechnology develops, we may be able to use atoms and molecules just like building blocks, putting them together easily to create tiny structures and machines.

### How is this nano?

**Scientists use special tools and equipment to work on the nanoscale.** Nanoscale science focuses on things that are measured in nanometers, including atoms and molecules, the basic building blocks of our world.

In the field of nanotechnology, researchers study and make tiny things that are measured in nanometers. (A nanometer is a billionth of a meter.) Nanotechnology allows them to make things like smaller, faster computer chips and new medicines to treat diseases like cancer.



**DNA chip used to analyze human genes**

