

# NNCI—Nanoscale Science and Engineering Bunny Suit Contest

## Explore!

1. How fast can you put on a bunny suit?
2. Race against the clock or a friend/family member.
3. Here are the steps:
  - Shoe covers
  - Hair net
  - Face mask
  - Hood
  - Suit
  - Boots
  - Gloves
  - Goggles



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Cleanrooms are facilities where the air is filtered on a continuous basis to remove particles like dust, pollen, microbes, etc. These facilities are commonly used to manufacture electronic devices—like chips—and to do research. Why are cleanrooms needed? Even the tiniest particle can affect the making of a chip or a device. The NASA Hubble Space Telescope did not perform as designed because of a particle smaller than 0.5 microns. The diameter of a bacterium is 0.2 to 2.0 microns.

How clean is a cleanroom? The average office space has 500,000—1,000,000 particles/cubic meter of air (0.5 microns or larger). A class 100 cleanroom allows 100 particles/cubic meter and a class 1000 allows 1000 particles/cubic meter.

So why would you wear a suit in a cleanroom? It is not to protect the person but the room and what is being made inside it. You give off skin flakes, oil, cosmetics, sweat, lint, fibers (from clothes), and hair. These particles on a device would be like an elephant sitting on a dinner plate.