

## Sample Experiments

The following are ways to use the Speck monitor to test air quality in your home.

### Bedroom

Set up the Speck near your bed. Leave it running for at least an hour to get a baseline reading of the particle concentration in the room. How do the numbers change when you lie down? Bedding can collect many different types of particles, and using the bed can disperse particles into the air. Try different combinations of bedding and air flow (using a fan, opening windows and doors) to see which variables change the readings.

### Kitchen

Set up the Speck near your stove top. Track the readings as you cook meals. What cooking temperatures and foods cause changes to the readings? How does baking a dish change particulate readouts when compared to frying? If you have a range hood, examine how the readouts change while the fan runs. Does the ventilation hood effectively route air outside?

### Cleaning

Place the Speck in the room you plan to clean. How do the readouts change when you run the vacuum? What happens when you dust particular surfaces? How do various cleaning products affect the readouts? How long does it take for a reading to stabilize after cleaning? If your vacuum has a HEPA filter, how does that affect the Speck reading?

### Air Conditioners, Fans and Windows

Test various room conditions by placing the Speck near the vent, the fan or an open window. (Be careful not to place the Speck in direct sunlight, which will affect the reading.) Test various conditions by turning on the A/C, a fan or opening the window. Test the Speck in various locations in the room to identify “hot spots.” If you see dramatic changes, consider using a HEPA filter on your HVAC system and testing the changes.

## Selected Reading and Contact Information

### Further Reading:

**For more ideas of how to use the Speck, please visit [www.specksensor.org](http://www.specksensor.org).**

**All of the following items are available for checkout from Carnegie Library of Pittsburgh.**

#### For everyone:

Landgraf, Greg Citizen Science Guide for Families: Taking Part in Real Science

#### For adults:

Busch, Akiko The Incidental Steward: Reflections on Citizen Science

Davis, Devra When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution

Smith, Rick and Bruce Lourie with Sarah Dopp Slow Death by Rubber Duck: The Secret Danger of Everyday Things

Dust, 2007, DVD 91 minutes

#### For teens:

Herbsman, Cheryl Renée Breathing

#### For children:

Gardner, Robert Air: Green Science Projects for a Sustainable Planet

Kroll, Virginia Brianna Breathes Easy: A Story About Asthma

Matthies, Janna Peter, the Knight with Asthma

Minden, Cecilia Kids Can Keep Air Clean

Minden, Cecilia and Joanne Meier A Walk Across Town

Robbins, Lynette How to Deal with Asthma

### Let's Talk About It

Join your fellow library patrons in a discussion about using the Speck and the things they've learned.

Sign up on Facebook at [www.facebook.com/groups/clpspeck](http://www.facebook.com/groups/clpspeck)