

Steps to Healthier Homes

- Start with People
- House as a System
- Keep It:
 - Dry
 - Pest-Free
 - Safe
 - Maintained
- Making it Work
 - Clean
 - Ventilated
 - Contaminant-Free



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Why do we want homes that are clean and easily cleanable?

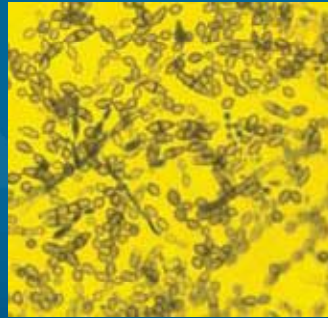
- Reduced exposure to:
 - Chemical contaminants
 - Allergens
 - Pest droppings and urine
 - Pesticides and consumer chemicals
 - Heavy metals such as lead and arsenic
- Reduced harborage for pests



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Environmental Allergens

- Animals
- Dust Mites
- Molds
- Tree Pollen
- Grass Pollen
- Weed Pollen
- Latex
- Foods
- Stinging Insects
- Medications



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Humid buildings may be colonized by dust mites. In dry climates dust mites are limited to porous materials that get humidified.



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Where does house dust come from?

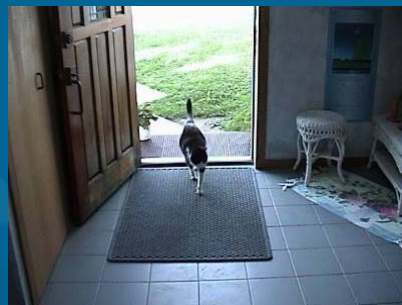
- Brought-In
- Home-Grown
 - Lead Dust
 - Dust Mites
- Resident-Made
 - Garbage
 - Clutter



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Brought In Dust

- Four Steps
 - Hard Surface Walkways
 - Outside Grate-Like Mat
 - Inside Carpet Pad
 - Hard Surface Floor



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Healthy Cleaning

- Don't dry dust or dry sweep
- Vacuuming:
 - Low-emission vacuum with beater bar
 - Very slowly (or use vacuum with dirt finder)
- Wet cleaning:
 - Use “elbow grease”
 - Frequently change water



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What can we do to buildings to make them more cleanable?

- Install dust walk-off systems at entryways
- Keep activities which create dust away from people.
- Provide smooth, cleanable surfaces
- Provide effective storage space (to help avoid clutter)
- Choose flooring that is easy to clean
- Use vacuums that have good filtration and can be emptied quickly and thoroughly



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Isolate Problems

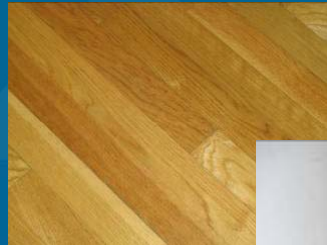


Keep pets off beds and out of bedroom.



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Cleanable Flooring



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What to look for in a vacuum?

- Beater Bar
- Vacuum Strength
- Filter Type
- Dirt Sensor



HEPA^{*}
Air Filter



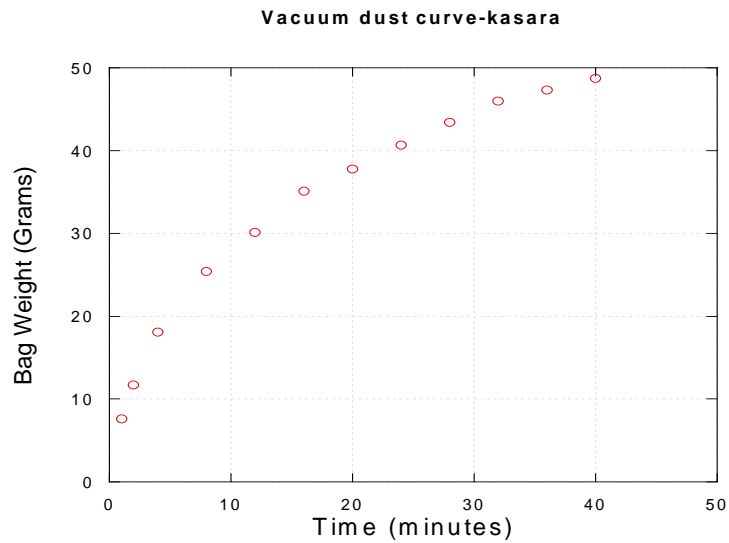
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- Dust mite control
- hot water
 - dehumidifiers

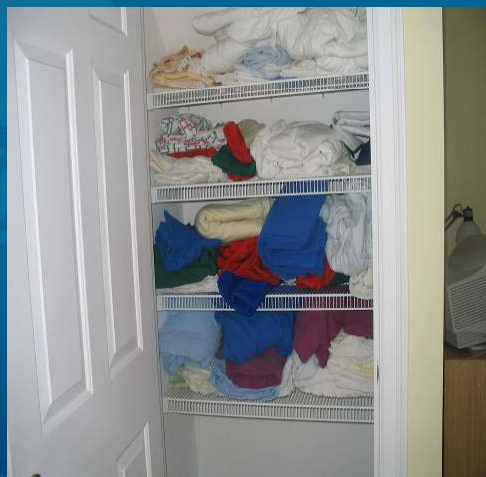


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Older Carpets: Difficult to Clean



Wire Shelving



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How clean is clean?

- Clearance testing for lead
 - 40 micrograms of lead per square foot on floors
 - 250 micrograms of lead per square foot on window sills.
- Standards for allergens?
- Standards for dust?



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What cleaning measures are problematic?

- Carpet cleaning
- Overuse of anti-microbials
- Sanitizers
- Air fresheners



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Duct Cleaning

EPA recommends duct cleaning when:

- Substantial visible mold on hard surface ducts and other ventilation components.
- Ducts infested with rodents or insects.
- Ducts clogged with excessive dust and debris.
- Ducts actually release particles from supply registers.



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Clutter

- What's the problem?
- What do we do to help? Organize home,shelves and storage bins.
- Hoarding? What's the psychological aspect of this?



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Code Requirements Related to Cleanliness

■ 305.1 General.

- The interior of a structure and equipment therein shall be maintained in good repair, structurally sound and in a sanitary condition.
- Occupants shall keep that part of the structure which they occupy or control in a clean and sanitary condition.
- Every owner of a structure containing a rooming house, housekeeping units, a hotel, a dormitory, two or more dwelling units or two or more nonresidential occupancies, shall maintain, in a clean and sanitary condition, the shared or public areas of the structure and exterior property.



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Code Requirements Related to Cleanliness

■ 302.1 Sanitation.

- All exterior property and premises shall be maintained in a clean, safe and sanitary condition.
- The occupant shall keep that part of the exterior property which such occupant occupies or controls in a clean and sanitary condition.

■ 307.1 Accumulation of rubbish or garbage. All exterior property and premises, and the interior of every structure, shall be free from any accumulation of rubbish or garbage.

■ 503.4 Floor surface. In other than dwelling units, every toilet room floor shall be maintained to be a smooth, hard, nonabsorbent surface to permit such floor to be easily kept in a clean and sanitary condition.



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Key Messages

- Pesticides, allergens, and general chemicals in the home can cause allergic reactions, asthma and asthma exacerbation, and toxic exposure effects.
- Potential sources of allergens and contaminants in the home come from outdoor and indoor sources.
- Keeping a home clean includes controlling the source, creating smooth and cleanable surfaces, reducing clutter, and using effective cleaning methods.



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Learning Objectives

- List three contaminants or allergens that are frequently found in house dust and their health effects.
- Describe three ways allergens or contaminants get into house dust.
- Identify three strategies to reduce them.



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