

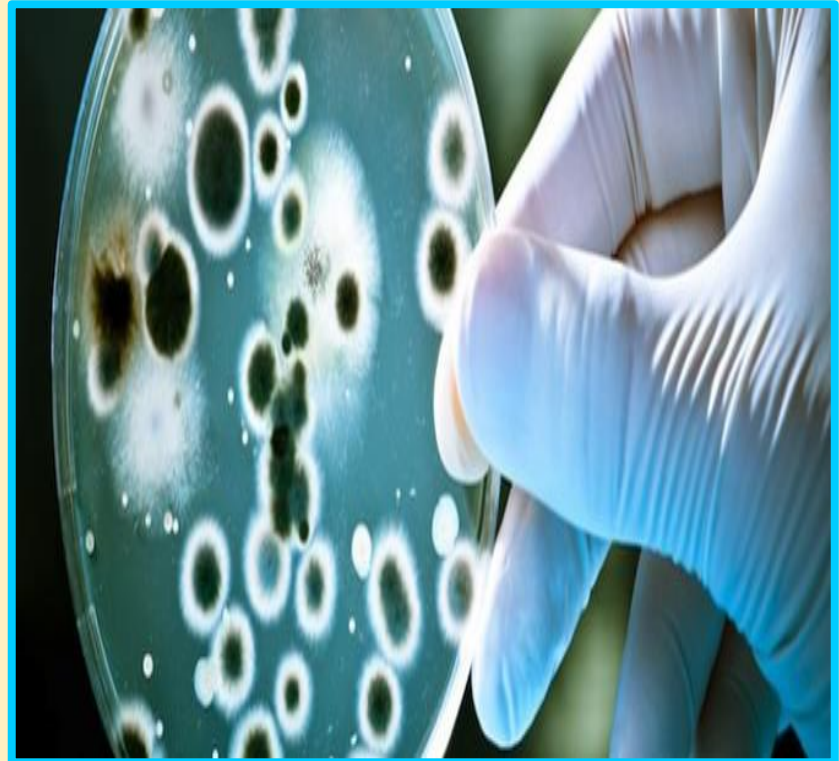
# Mitigating Mold at Home

## Module 3

# Welcome

Welcome to Module 3. The focus in this module is “Mitigating Mold at Home”. The objectives are:

1. How to find mold in the home
2. Fixing it yourself
3. The steps to take



## Module 3

# The basics of mold

- The key to mold control is moisture control.
- If mold is a problem in your home, you should clean up the mold promptly *and* fix the water problem.
- It is important to dry water-damaged areas and items within 24-48 hours to prevent mold growth.



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# Why is mold growing?

- Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided.
- Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air.
- Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.



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# How do I get rid of mold?

- It is impossible to get rid of all mold and mold spores indoors; some mold spores
- will be found floating through the air and in house dust.
- The mold spores will not grow if moisture is not present. Indoor mold growth can and should
- be prevented or controlled by controlling moisture indoors. If there is mold growth in your home, you must clean up the mold and fix the water problem.
- If you clean up the mold, but don't fix the water problem, then, most likely, the mold problem will come back.





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# When to do it yourself

One consideration is the size of the mold problem. If the moldy area is less than about 10 square feet (less than roughly a 3 ft. by 3 ft. patch).



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# Tips & techniques

- Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- Scrub mold off hard surfaces with detergent and water, and Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy.
- Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely.
- Avoid exposing yourself or others to mold dry completely.
- Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.
- If you are unsure about how to clean an item, or if the item is expensive or of sentimental value, you may wish to consult a specialist.

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# Take precautions

Limit your exposure to mold and mold spores.





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# Avoid breathing in mold

- In order to limit your exposure to airborne mold, you may want to wear an N-95 respirator, available at many hardware stores and from companies that advertise on the Internet. (They cost about \$12 to \$25.)
- Some N-95 respirators resemble a paper dust mask with a nozzle on the front, others are made primarily of plastic or rubber and have removable cartridges that trap most of the mold spores from entering.
- In order to be effective, the respirator or mask must fit properly, so carefully follow the instructions supplied with the respirator.



Mold spores get into your nose and can cause allergy symptoms.

They can also get into your lungs and trigger asthma.

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# Wear gloves

- Long gloves that extend to the middle of the forearm are recommended. When working with water and a mild detergent, ordinary household rubber gloves may be used.
- If you are using a disinfectant, a biocide such as chlorine bleach, or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane, or PVC.
- Avoid touching mold or moldy items with your bare hands.



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# Wear goggles

Goggles that do not have ventilation holes are recommended. Avoid getting *mold or mold spores in your eyes.*



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# How to know when you're done

- You must have completely fixed the water or moisture problem before the cleanup or remediation can be considered finished.
- You should have completed mold removal. Visible mold and moldy odors should not be present. Please note that mold may cause staining and cosmetic damage.
- You should revisit the site(s) shortly after cleanup and it should show no signs of water damage or mold growth.
- People should have been able to occupy or re-occupy the area without health complaints or physical symptoms.
- Ultimately, this is a judgment call; there is no easy answer.

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# Moisture control

When water leaks or spills occur indoors - **ACT QUICKLY**. If wet or damp materials or areas are dried 24-48 hours after a leak, or spill happens, in most cases mold will not grow.

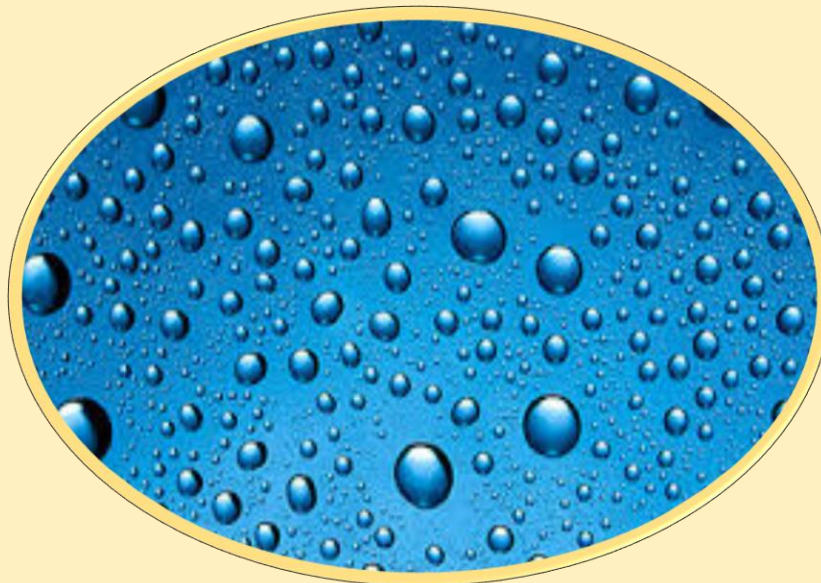




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# Contain moisture in home

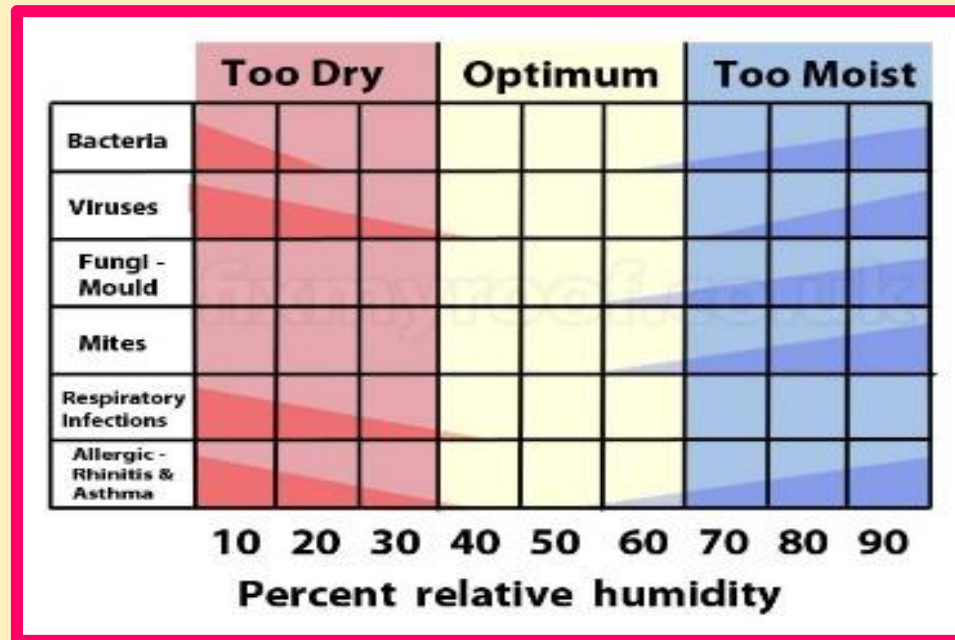
- Clean and repair roof gutters regularly.
- Make sure the ground slopes away from the building foundation, so that water does not enter or collect around the foundation.
- Keep air conditioning drip pans clean and the drain lines unobstructed and flowing properly.



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# Control indoor humidity

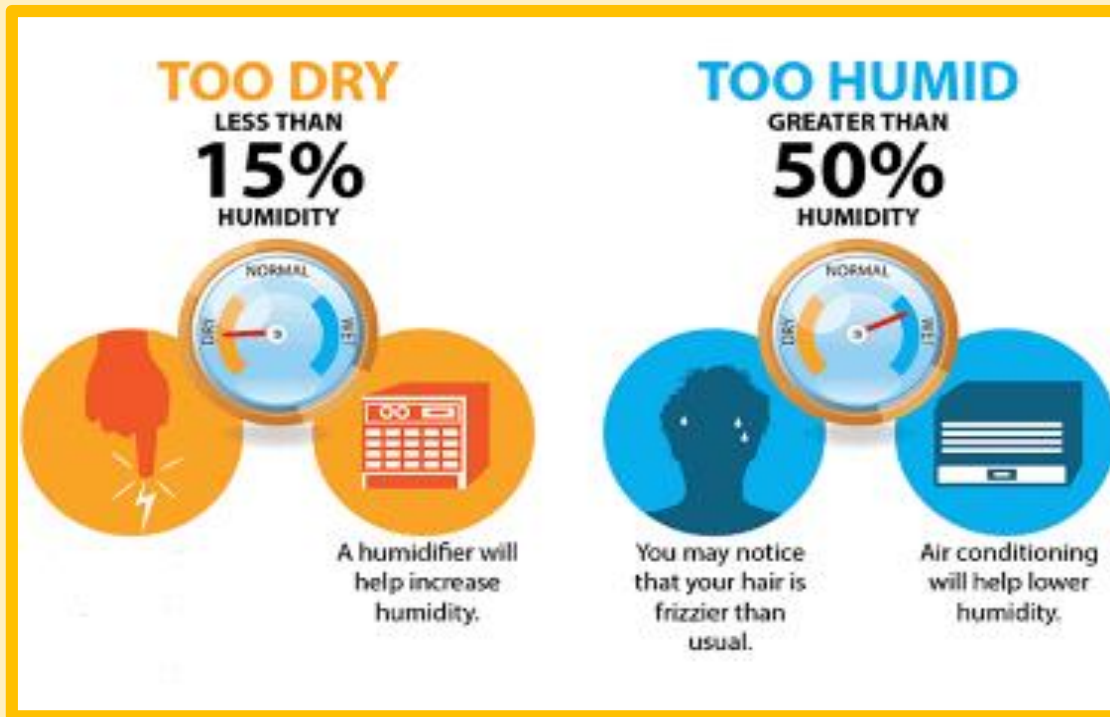
Keep indoor humidity low. If possible, keep indoor humidity below 60 percent (ideally between 30 and 50 percent) relative humidity. Relative humidity can be measured with a moisture or humidity meter, a small, inexpensive (\$10-\$50) instrument available at many hardware stores.



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# Condensation

If you see condensation or moisture collecting on windows, walls or pipes - **ACT QUICKLY** to dry the wet surface and reduce the moisture/water source. Condensation can be a sign of high humidity.



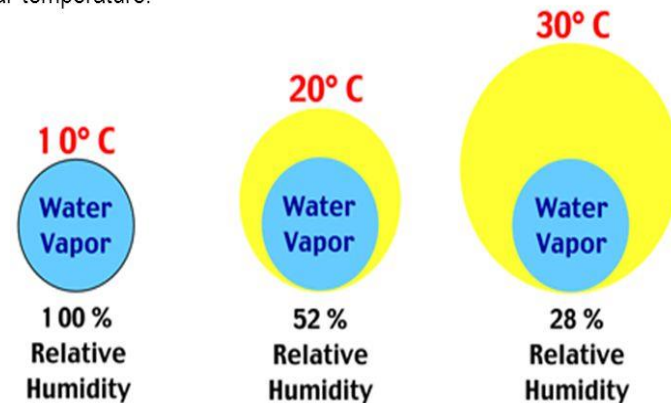
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# Reduce humidity

- Vent appliances that produce moisture, such as clothes dryers, stoves, and kerosene heaters to the outside where possible.
- Use air conditioners and/or de-humidifiers when needed.
- Run the bathroom fan or open the window when showering. Use exhaust fans or open windows whenever cooking, running the dishwasher or dishwashing.

## Relative Humidity

The most commonly used measure of humidity is **relative humidity**. Relative humidity can be simply defined as the amount of water in the air relative to the saturation amount the air can hold at a given temperature multiplied by 100. Air with a relative humidity of 50% contains a half of the water vapour it could hold at a particular temperature.



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# Prevent condensation

- Reduce the humidity
- Increase ventilation or air movement by opening doors and/or windows, when practical. Use fans as needed
- Cover cold surfaces, such as cold water pipes, with insulation
- Increase air temperature





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# Renters

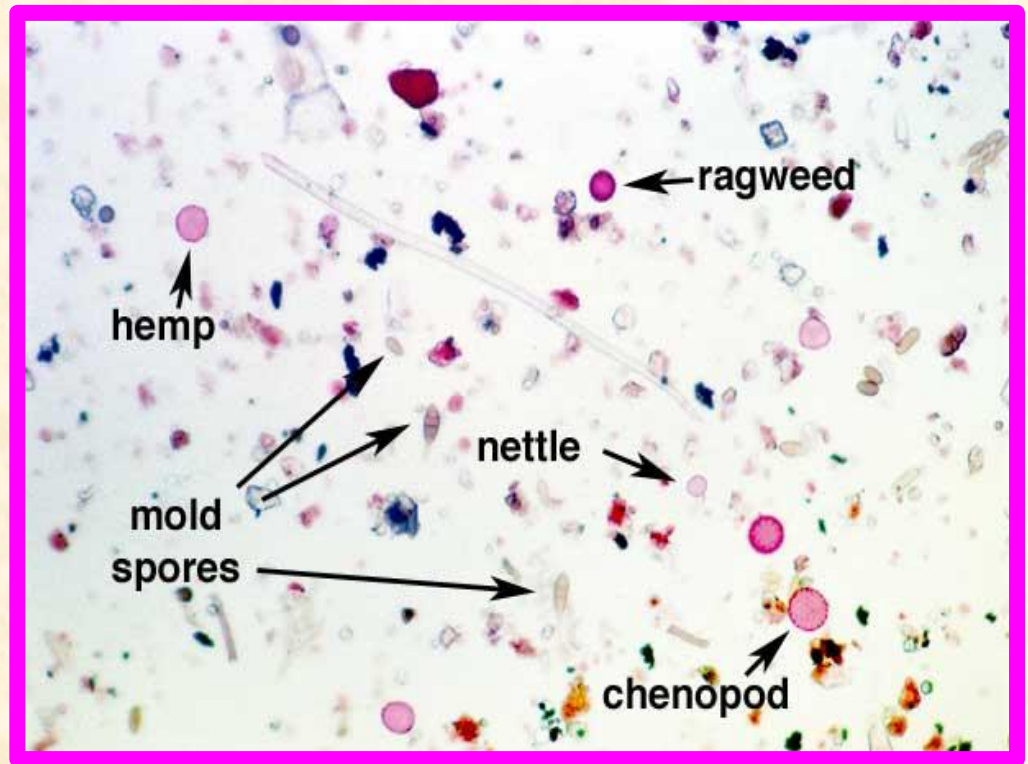
Report all plumbing leaks and moisture problems immediately to your building owner, manager, or superintendent. In cases where persistent water problems are not addressed, you may want to contact local, state, or federal health or housing authorities.



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# Sampling

In most cases, if visible mold growth is present, sampling is unnecessary. Surface sampling may be useful to determine if an area has been adequately cleaned or remediated.



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# Hidden mold?

- You may suspect hidden mold if a building smells moldy, but you cannot see the source, or if you know there has been water damage and residents are reporting health problems.
- Mold may be hidden in places such as the back side of dry wall, wallpaper, or paneling, the top side of ceiling tiles, the underside of carpets and pads, etc.
- Other possible locations of hidden mold include areas inside walls around pipes (with leaking or condensing pipes), the surface of walls behind furniture (where condensation forms), inside ductwork, and in roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

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# Investigate

Investigating hidden mold will require caution when the investigation involves disturbing potential sites of mold growth. For example, removal of wallpaper can lead to a massive release of spores if there is mold growing on the underside of the paper. If you believe that you may have a hidden mold problem, consider hiring an experienced professional.





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# Clean-up & biocides

- Biocides are substances that can destroy living organisms. The use of a chemical or biocide that kills organisms such as mold (chlorine bleach, for example) is not recommended as a routine practice during mold cleanup.
- There may be instances, however, when professional judgment may indicate its use (for example, when immune-compromised individuals are present).
- In most cases, it is not possible or desirable to sterilize an area; a background level of mold spores will remain - these spores will not grow if the moisture problem has been resolved.





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# Disinfectants

If you choose to use disinfectants or biocides, always ventilate the area and exhaust the air to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia because toxic fumes could be produced.



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# Caution!

Dead mold may still cause allergic reactions in some people, so it is not enough to simply kill the mold, it must also be removed.



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# Resources

For more information on mold related issues including mold cleanup and moisture control/condensation/humidity issues, visit: [www.epa.gov/mold](http://www.epa.gov/mold)



A mold-free home is a healthy home.

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**Thank-you for  
joining us**

*The End of Module 3*