

# Are you using your ceiling fans correctly?

Proper use will help circulate air throughout the seasons

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Living Green



Electric-powered ceiling mounted fans have been used for more than a century to make living areas more comfortable.

Nearly everyone has one or more ceiling fans in their home. The range of types, shapes, colors and designs are staggering – if it can be imagined, it has been configured and sold. Blade designs that look like bird wings, fish, palm leaves and made from fiberboard, plastic or high tech metal alloy. Despite all of these variations, each performs the same function.

Ceiling fan blades can push air either up toward the ceiling or down toward the floor and people in the room. A single switch on the side of the fan motor typically controls the fan-blade direction. Based on what I see during home audits and inspections, this very simple and popular machine is utilized incorrectly half of the time.

## Summer

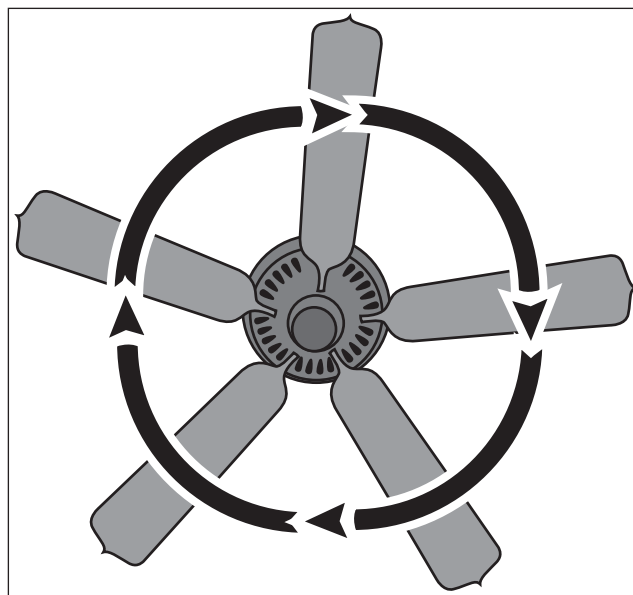
Ceiling fans make you feel cooler in the summer by creating a breeze that speeds up the natural moisture evaporation from the surface of your skin. This windchill-type sensation caused by the phase change of liquid to a gas on the skin surface is one way our body regulates temperature and makes a big impact on comfort during warm weather.

When fan-forced air is flowing around your body, you will be comfortable at higher temperatures. This allows you to set your homes central cooling thermostat 5 to 10 degrees higher, saving money on air conditioning bills.

When a ceiling fan rotates counterclockwise (while looking up at it), the slant of the blades pushes air down – high leading edge moving forward, causing a noticeable breeze. The faster the fan spins, the cooler you feel. This cooling effect doesn't change the temperature of the air, it only makes you feel cooler.

Remember to turn fans off when you are not in the room. Otherwise, heat from the motor will actually increase the temperature in the room and cause air conditioning systems to work harder.

“The cooling effect doesn't change the temperature of the air ...”



Setting a fan's rotation clockwise in the winter will help heat an area.

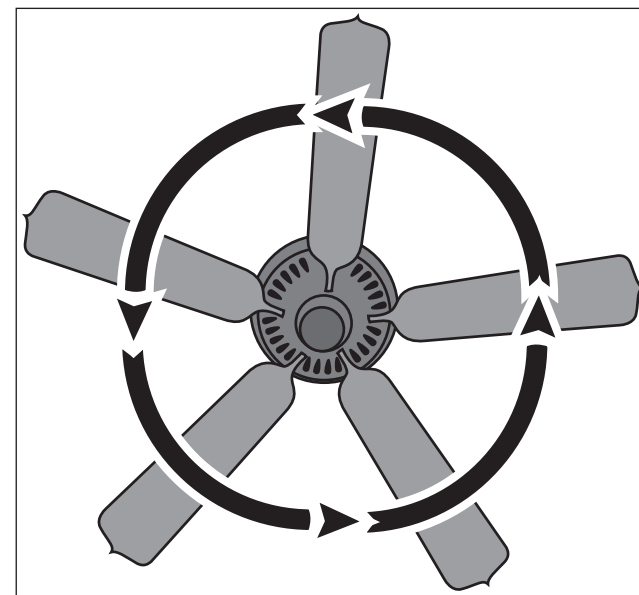
## Winter

Ceiling fans can produce the opposite effect in the winter by gently circulating hot air that is trapped near the ceiling.

Since heat rises, the temperature near the ceiling is greater than at floor level. This is particularly true in houses with high ceilings or those with heating systems that do not circulate the air (like radiant floors or pellet stoves).

The reason the fan is set to rotate clockwise on low (low leading edge moving forward) is to keep from creating a strong draft, which would cool you down just like it does in summer. Instead, the air near the ceiling is pushed up and outward, causing it to circulate down near the perimeter of the room.

Since the air at people level is warmer, the thermostat can be set lower, saving winter heating dollars. Any heat generated by the fan's motor is a bonus in the winter, so you can keep it running if a room is not occupied to moderate temperature and limit stratification of cold and warm air.



In the summer, set your fan to rotate counterclockwise to push air down, cooling those in the room by creating a windchill-type sensation.

## New fans

Look for Energy Star-rated or high-efficiency motors when shopping for new fans. Most standard fans use 75 to 150 watts, depending on the fan speed settings. High-efficiency units can use 25 watts or less. If you install fans with light kits, consider using LED bulbs to further decrease electricity costs and heat load in the summer.

Stay safe when installing fans. Make sure you use the appropriate UL-listed electric service metal box, marked “For use with ceiling fans.” This outlet box is mounted above the ceiling and also is the point where the fan is attached. This box houses all wiring needed to operate and connect the ceiling fan. If you are replacing a ceiling light fixture with a new fan, most likely you will need to replace the electrical box. When in doubt, call a licensed electrician.

If possible, the ceiling fan should be anchored to a ceiling joist. In the case that the joist is not located in the center of the room, a special ceiling fan mounting bracket should be installed between joists. Keep in mind that ceiling fans with attached light kits can weigh as much as 50 pounds.

Get the most from your ceiling fans. Use this information and take a few minutes now to improve the comfort and efficiency in your home all year-long.

*Miles Dyson is the owner of Inspection Connection LC - Professional Home Energy Rating and Home Inspection Services in Mesilla Park and can be reached at 202-2457. Dyson is a RESNET certified Home Energy Rater and ASHI certified Home Inspector.*