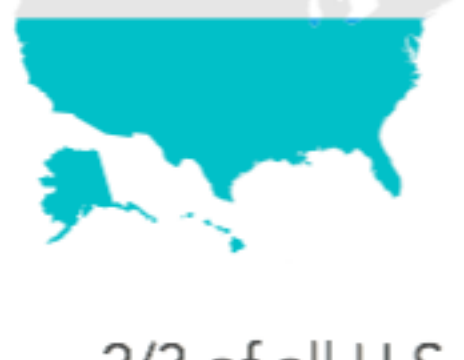


Home Cooling

6%

The percentage of the average household's energy use that goes to space cooling.



2/3 of all U.S. homes have air conditioners.

\$11B

The amount it costs homeowners every year to power their air conditioners.

#DidYouKnow:



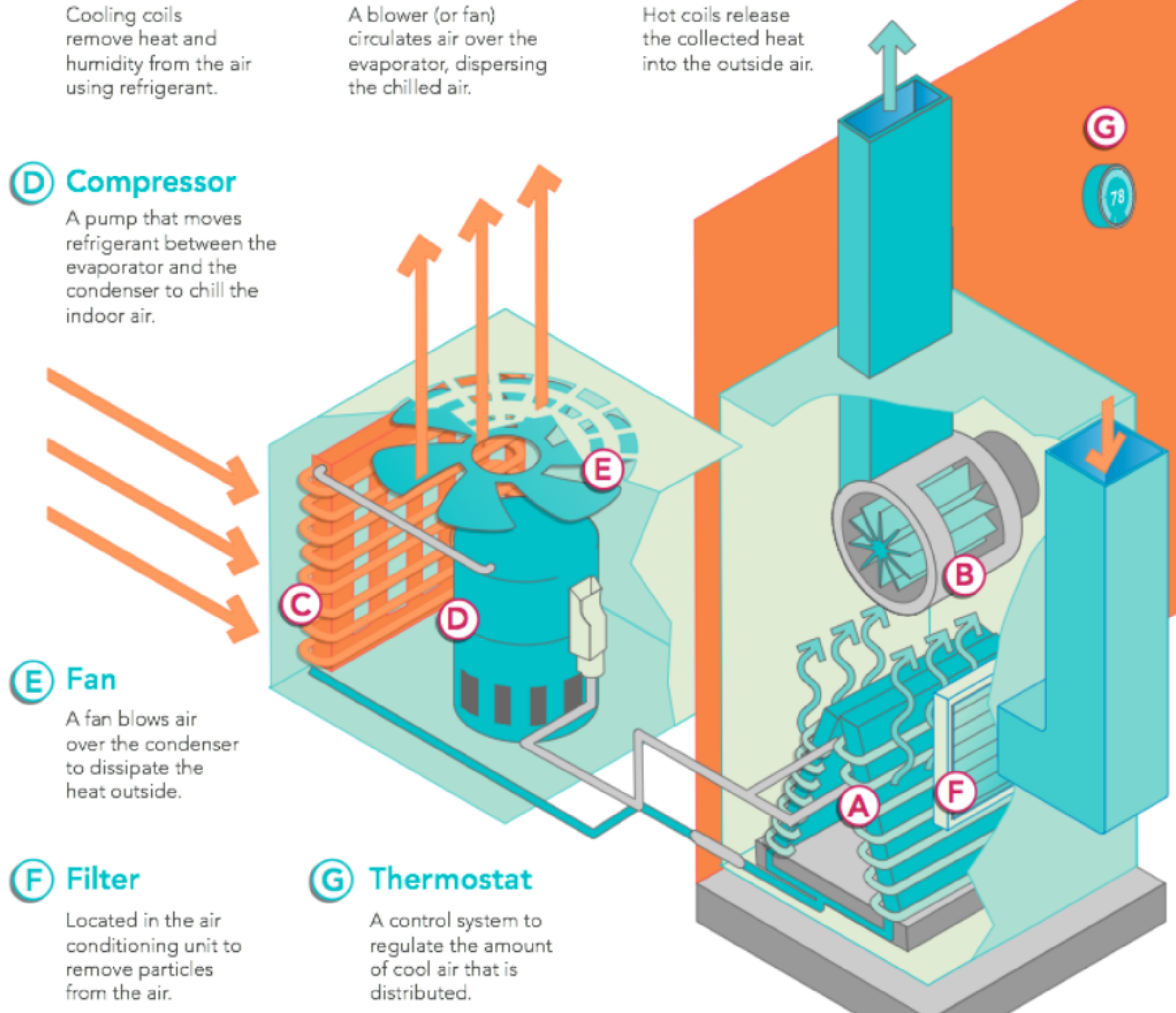
You can reduce air conditioning energy use by 20-50 percent by switching to **high-efficiency air conditioners** and taking other actions to lower your home cooling costs.

ENERGY-SAVING TIP:

The quickest way to save energy on home cooling is to regularly clean and replace your cooling unit's filters.

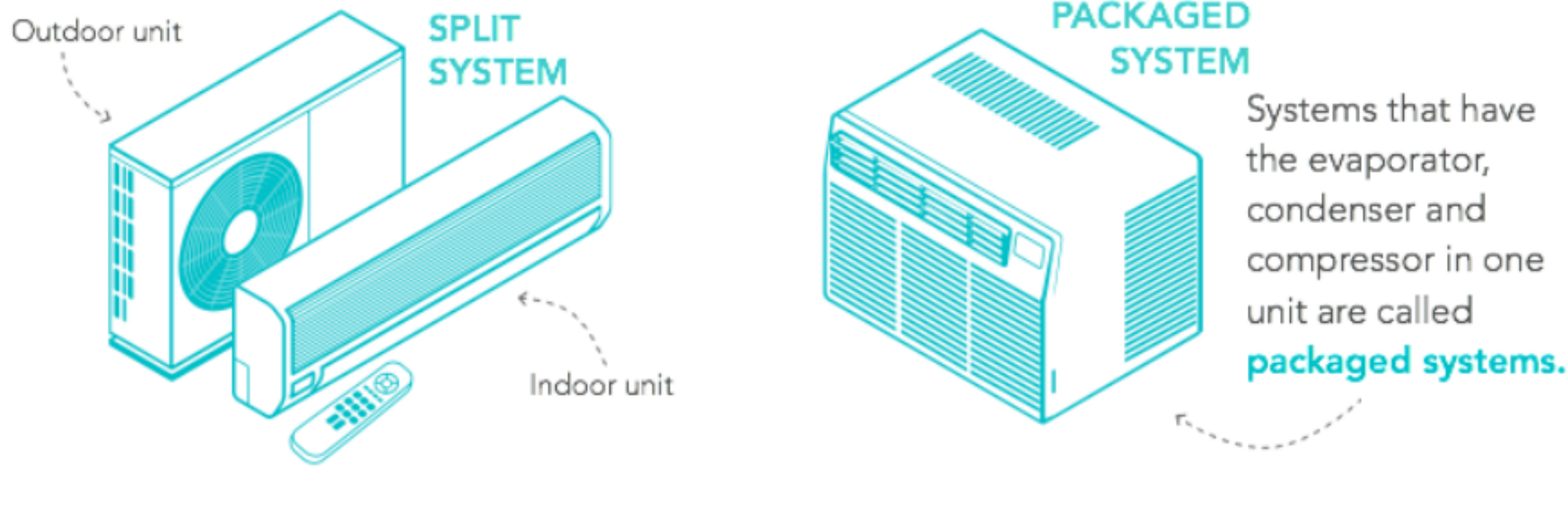
How an Air Conditioner Works:

Similar to how a refrigerator works, air conditioners transfer heat from a home's interior to the warm outside environment.



What is a split system?

Many types of air conditioning systems are called split systems because they are made up of an **outdoor unit**, which contains the condenser and compressor, and an **indoor unit**, which is often connected to a furnace or heat pump.



Types of Air Conditioners

	CENTRAL A central air conditioner circulates cool air through a home using a system of ducts and registers. LIFE SPAN: 15-20 years	COST \$\$\$	CHOOSING YOUR A/C A central A/C system will provide the most even cooling throughout the home. If already you have ductwork, it can be a cost-effective option.	PRO Quiet, convenient to operate and more efficient than window units.	CON Can be expensive to install if you don't have ductwork already.	TIP Make sure your ductwork is properly sealed and connected without gaps or excessive bends.
	ROOM The most popular cooling system, a room air conditioner provides spot cooling and can be either a window unit or a portable air conditioner. LIFE SPAN: 10-15 years	COST \$	CHOOSING YOUR A/C If you don't currently have an air conditioner, a room unit can provide cooling to select spaces at an affordable cost.	PRO Inexpensive way to cool a room or an addition to your home.	CON Improper installation can result in significant air leakage -- increasing it by as much as 10 percent.	TIP Install rigid foam panels in between the window frame and unit and secure with duct tape instead of the accordion panels to reduce air leakage.
	DUCTLESS, MINI-SPLIT Mounted on a wall, a ductless mini-split air conditioner provides zoned cooling without the ductwork. LIFE SPAN: 12-15 years	COST \$\$\$\$	CHOOSING YOUR A/C Ductless mini-splits can provide cooling as well as heating. They are highly efficient, work in all climate zones and can be an affordable alternative to installing a ducted system.	PRO Easy to install and avoids energy loss associated with ductwork.	CON Is expensive -- in homes with existing ductwork, a mini-split can cost 30 percent more than adding an air conditioner unit to the existing system.	TIP Keep the compressor (the part of the unit outside) clean to prevent overheating.
	EVAPORATIVE COOLER An evaporative cooler (also called a swamp cooler) cools outdoor air using evaporated water and circulates it throughout the house. LIFE SPAN: 15-20 years	COST \$\$	CHOOSING YOUR A/C If you live in an arid climate, an evaporative cooler can be a cost-effective cooling option. In addition to cooling the air, they add moisture, which can improve comfort.	PRO Costs about 1/3 as much to install and uses about 1/3 of the energy of a central air conditioner.	CON Requires more frequent maintenance and is only suitable for areas with low humidity.	TIP Regularly clean and drain your evaporative cooler to ensure it operates as efficiently as possible.

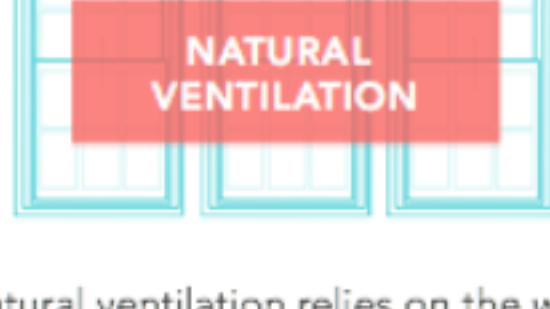
#DidYouKnow:

When there is excess humidity in the air, our body's ability to cool itself through perspiration is inhibited.

One way an air conditioner makes us feel cooler is by reducing the amount of moisture in the air.

Ventilation

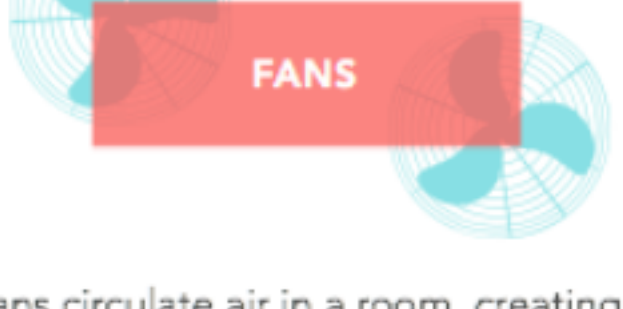
Ventilation is the least expensive and most energy-efficient way to cool a home.



Natural ventilation relies on the wind to create a "chimney effect" to cool a home. A simple natural ventilation strategy is **opening windows to create a cross-wise breeze**.

ENERGY-SAVING TIP:

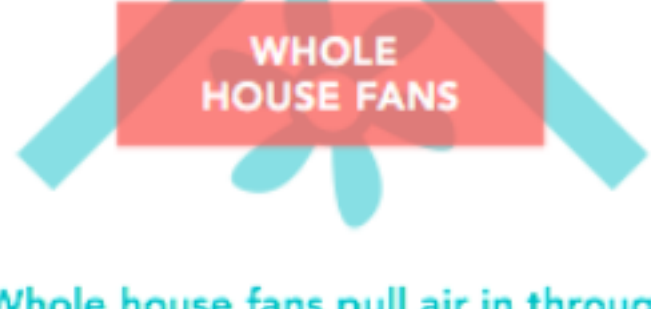
If you live in a cooler climate, take advantage of the wind to naturally cool your home.



Fans circulate air in a room, creating a **wind chill effect** that makes occupants more comfortable. Fans for cooling come in a variety of options, including ceiling, table, floor and wall-mounted.

ENERGY-SAVING TIP:

Turn off your fans when you leave the room -- fans cool people, not rooms.



Whole house fans pull air in through **windows** and exhaust it through a home's attic and roof. To ensure proper sizing and safety, professionals should install whole house fans.

ENERGY-SAVING TIP:

In many climates, a whole house fan can provide cooling needs even on the hottest days.

Maintaining Your Air Conditioner

Annual maintenance can help improve your comfort and the efficiency of your air conditioner while prolonging the life of your unit.

Routinely replace or clean your air filters -- it can lower your air conditioner's energy consumption by 5-15 percent.

Check your air conditioner's evaporator coil every year and clean it as necessary.

If your coil fins are bent, use a "fin comb" to straighten them.

If you have a split system, be sure to clean debris and leaves from the fan, compressor and condenser.

Occasionally pass a stiff wire through your unit's drain channels to prevent clogs.

For window air conditioners, inspect the window seals to keep cool air from escaping.

Hire a certified professional when your unit needs more than basic maintenance.

Common Air Conditioner Problems

Your unit isn't cooling properly

Refrigerant Your refrigerant could be low or leaking. Call a trained technician to repair the leak and recharge the system.	Sensor Problems If you have a window unit, the thermostat sensor could be knocked out of position. Carefully bend the wire holding it in place to properly position it.	Thermostat Issues Check your thermostat to make sure it is set properly and it is reading the correct temperature.	Drainage Problems Check your unit's drain to make sure it isn't clogged.	Dirty Filter A clogged filter restricts airflow through the unit, decreasing its efficiency and reducing its ability to effectively cool the air.
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Your unit isn't turning on

Electric Control Failure Your compressor and fan controls could be worn out from having your system turn off and on too frequently. Contact a professional to check your unit's electrical connections.	Thermostat Make sure your thermostat is working -- it might need new batteries or might need to be replaced entirely.
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Limited airflow

Ductwork Problems Your ducts could be leaking air or be clogged or constricted. Work with a professional to clean and air seal your ducts.	Dirty Filter A clogged filter restricts airflow through the unit, decreasing its efficiency and reducing its ability to effectively cool the air.
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Tips for Lowering Your Cooling Costs

Install and set a programmable thermostat -- it could help you save up to 10 percent on heating and cooling costs a year.

Use a fan. Ceiling fans will allow you to raise the thermostat setting without impacting your comfort.

Insulate your attic and walls, and seal cracks and openings to prevent warm air from leaking into your home.

Insulate and seal ducts -- air loss through ducts accounts for about 30 percent of a cooling system's energy consumption.

Don't heat your home with appliances. On hot days, consider using a outdoor grill instead of your oven.

Install energy-efficient window coverings that let natural light in and prevent solar heat gain.

Buy an ENERGY STAR-qualified AC unit -- on average, they're up to 15 percent more efficient than standard models.

Use the bathroom fan when taking a shower or bath and a range hood when cooking -- this helps remove heat and humidity from your home.

SOURCES: Energy Saver (www.energy.gov/energysaver), the Energy Department's Building Technologies Office (www.energy.gov/eere/buildings/building-technologies-office), Energy Star (www.energystar.gov), Weatherization Assistance Program Technical Assistance Center (www.waptac.org)