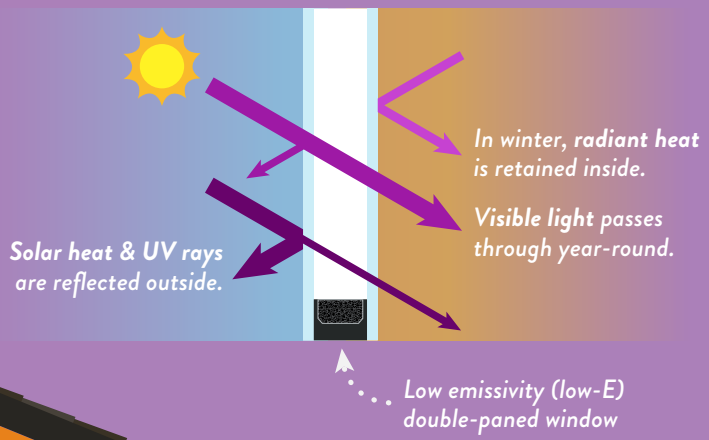
ecoblock™

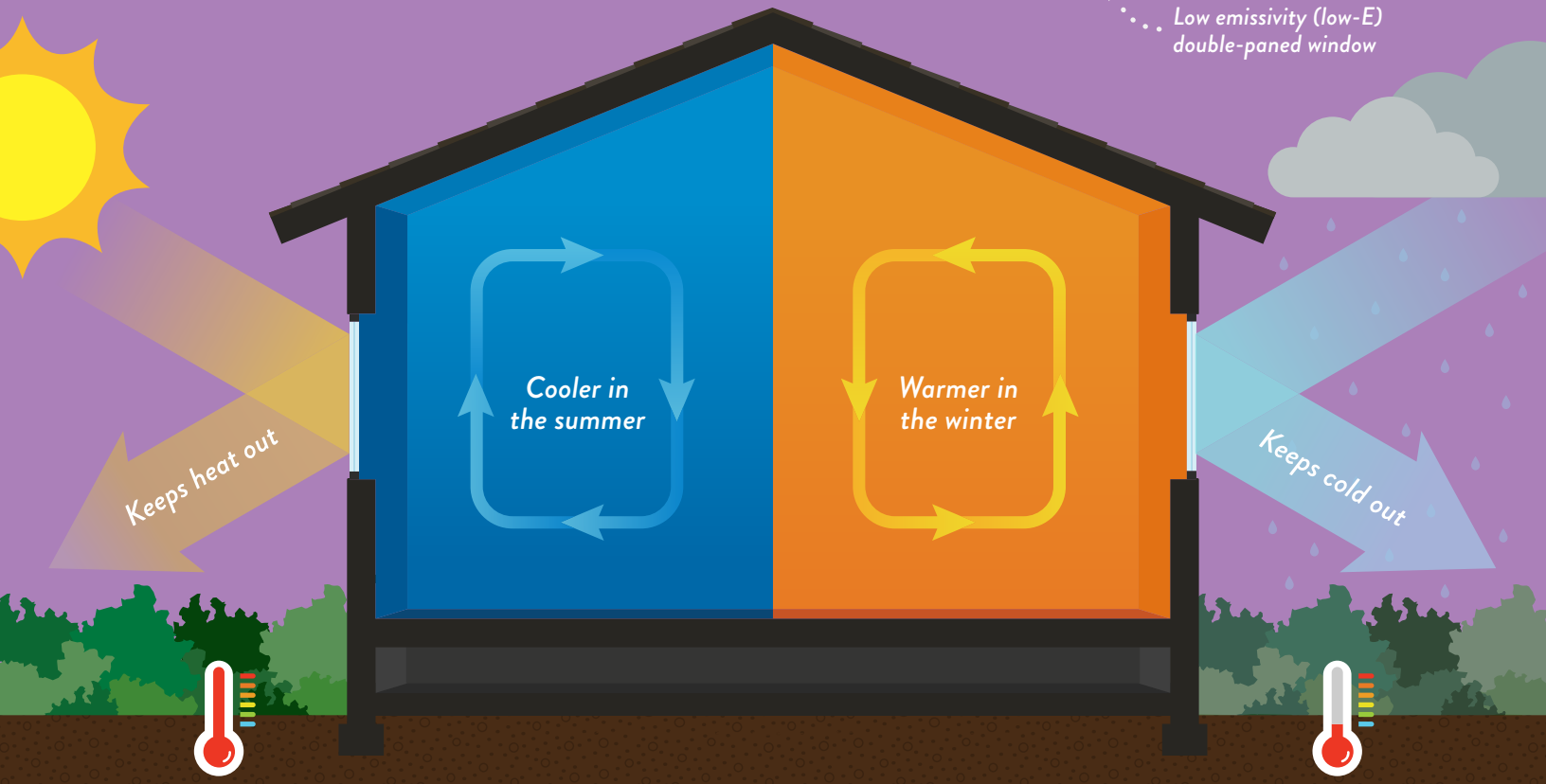
RETROFITS 101:

KNOW YOUR *WINDOW TREATMENTS*

01 *WHAT ARE EFFICIENT WINDOWS?*

Energy-efficient windows reduce condtioned air from escaping your home. They can **reduce your energy use**, **improve thermal comfort**, and **lower your monthly bills**. While you can completely replace your windows to improve efficiency, you can also adopt **cost-effective treatments** to refurbish existing ones.





02 *WINDOW TERMINOLOGY*

U-value

The U-value, or U-factor of a window measures **heat transfer** through the glazing due to temperature differences between indoor and outdoor air. U-values range from 0.1 (minimal heat loss) to 1.0 (high heat loss), with a lower number indicating better insulation.

Solar heat gain coefficient (SHGC)

Solar heat gain coefficient (SHGC) is the **fraction of solar radiation that passes through a window and is released indoors**. SHGC ranges from 0 (low solar heat transfer) to 1 (high solar heat transfer).

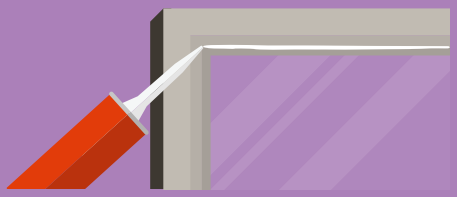
Radiant heat

Radiant heat, or thermal radiation, is the **transfer of heat by electromagnetic waves**. Any object that has a temperature above absolute zero—like the sun—directly radiates heat and does not need a medium like air or metal to transfer energy.

Visible transmittance (VT)

The visible transmittance (VT) of a window measures **how much sunlight that is visible to the human eye passes through the glazing**. VT ranges from 0 (transmits minimal visible light) to 1 (transmits a lot of visible light).

03 TYPES OF WINDOW TREATMENTS



Caulking

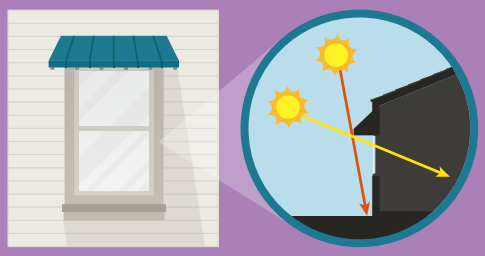
Caulking compounds like silicone and water-based foam seal small gaps between the window frame and glass or trim. It is important to choose the right product since they vary in strength, material application, and price.

Weather stripping

Weather stripping is an easy way to seal cracks and gaps at window openings. Some common options include adhesive-backed foam tape, felt, and vinyl V-strips.

Storm windows

Storm windows are typically framed glass or lightweight plastic film that are placed on the interior or exterior face of an existing window. They can be used year-round or in the winter if you do not have a high efficiency window, but may not allow for window operation.



Exterior shading

When placed correctly, exterior window treatments like awnings, exterior blinds, or overhangs can reduce summer heat gain while allowing the low winter sun to enter and warm your home.

Solar control film

Solar control film can be used when you do not have windows with low-E or high solar gain. Many product styles—including low-E film—can be placed on the interior or exterior face of an existing window.

Insulated interior window coverings

Insulated interior window coverings include thermal curtains and "honeycomb" horizontal blinds. They help reduce heat loss and maintain stable indoor temperatures, especially during the cooler evenings.

04 OTHER CONSIDERATIONS

Frame type

Glazing type

Gas fillers & spacers

Climate

05 WHY TREAT WINDOWS?

Pros

+ **Minimize** overall costs & energy use
+ Improve **indoor thermal comfort**
+ May **block solar glare** & harmful **UV rays**
+ **Reduce noise**
+ Can significantly **lower overall home air leakage**

Cons

+ Different options have **different costs**
+ May **trap moisture** on the interior window
+ May require **cleaning & maintenance**

Design by Eunice Chung

Sources: Amy Dryden, EcoBlock • Bob Vila • Blinds.com • Engineering Library • Home Depot • Popular Mechanics • Old House • SF Gate • True Value • U.S. Department of Energy