A SHORT SCIENCE LESSON ON HEAT MOVEMENT

HOW ENERGY FLOWS THROUGH WINDOWS

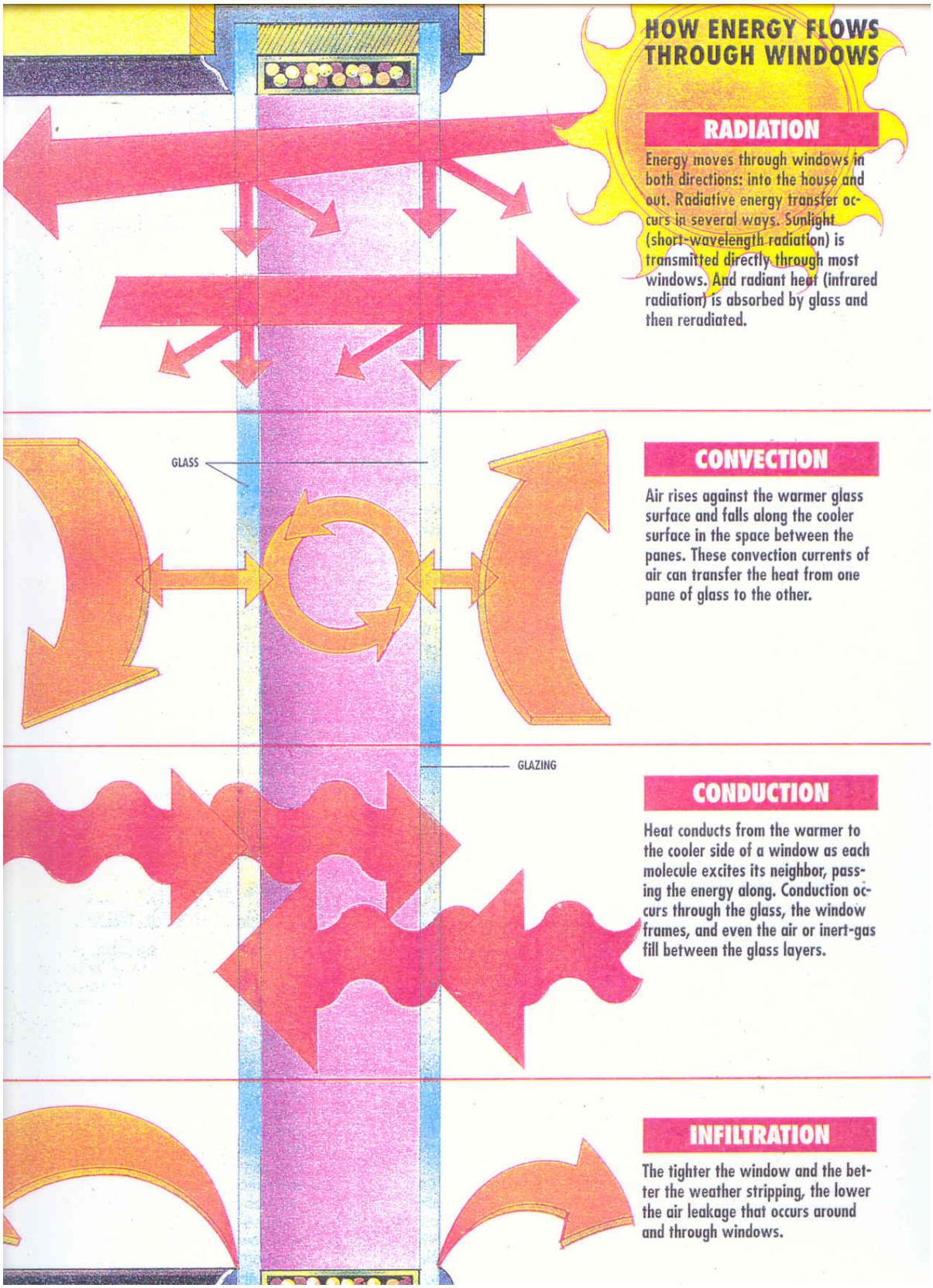
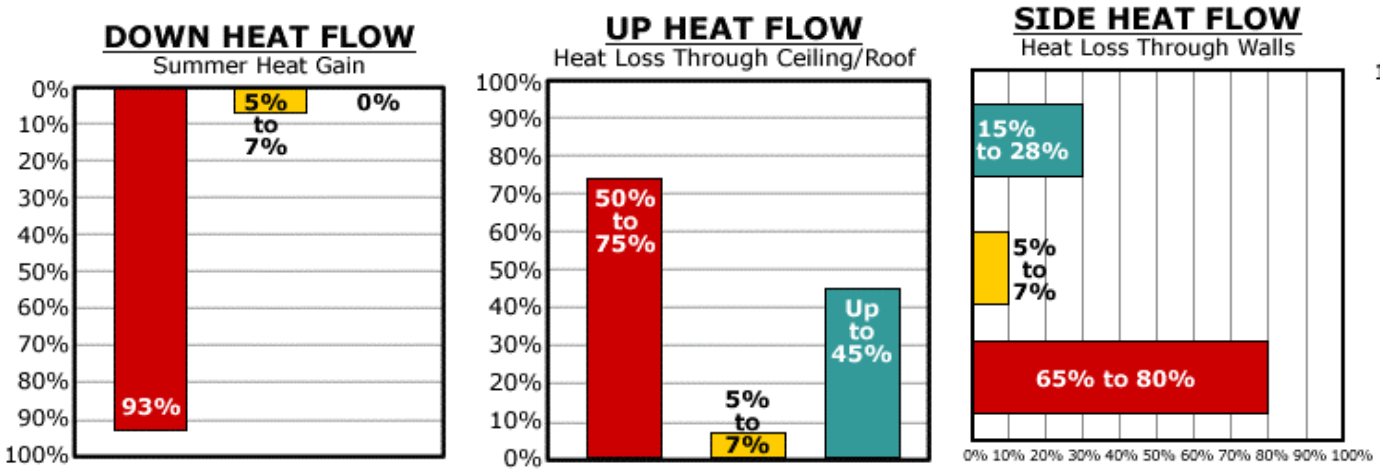


ILLUSTRATION FROM POPULAR SCIENCE

There is a big difference in behavior of the different types of heat.

The charts below illustrate the behaviors of heat in the different directions



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7% **Conductive:** Direct contact. If you touch a pot on the stove, this is conductive heat transfer.

15% **Convective:** Steam, moisture. If you put your hand above a boiling pot, you will feel heat in the form of steam. This is convective heat transfer.

80% **Radiant:** Electromagnetic. Step outside on a sunny day and feel the sun's rays on your face. You are feeling radiant heat transfer. All objects above absolute zero (-459.7 degrees F.) emit infrared rays in a straight line in all directions.

Radiance is the single most influential factor when you consider the nature of heat movement. R-value is a measure of conductivity and thus we can recognize the true influence that a good double pane window system has on the amount of heat loss due to conductivity vs the amount of heat loss due to radiance. Emissivity is the ability of a product to absorb certain types of energy and radiate that energy through itself and out of a room. This is why we use double panes of glass in colder climates. It has been determined that for every ***one unit of heat loss through a wall, the window will allow 13 units of heat loss***.

Radiance is credited with approximately 80% of total heat transfer.
So the bottom line is that Radiant heat movement can be the single largest factor in heat gain / loss in our homes and offices!

What Is Radiant Barrier?

Radiant barrier is a reflective system that offers a permanent way to reduce energy costs. Radiant barrier systems reflect radiant heat energy instead of trying to absorb it. A pure aluminum radiant barrier is unaffected by humidity and will continue to perform at a consistent level no matter how humid it may be.
Most people are familiar with traditional insulating materials such as fiberglass, cellulose, Styrofoam, and rock wool. These products use their ability to absorb or resist (slow down) convective and conductive heat transfer to insulate (R-value).

A seldom discussed but most dominant form of heat transfer is: *radiant heat transfer.*

The Secret of Solar Comfort's Window Products

Did you know that by using a radiant barrier that you can greatly reduce the energy that comes from the sun which heats up your home? Solar rays are a cold form of energy (electromagnetic) that travel through space and create heat when they contact a surface.

Glass will absorb about 3-5% of the energy while the rest of it travels through into your home. Solar Comfort Products will reflect up to 80% of the energy that comes through the glass, back outside before it can heat up your home.

During the winter, we reverse the reflection process. Heat energy wants to travel from the interior to the exterior, because heat travels from hot to cold. The goal is to reflect the heat energy before it can pass through the glass into the great outdoors.

The rules of nature say that for every unit of heat energy that exits through glass, an equal amount of cold energy must enter in exchange.
If we stop heat energy loss then we stop the "cold exchange".

That is what our products do.

They greatly reduce the energy exchange process, which costs you in lost energy and stop the drafty feel of the cold energy that comes through the glass.

"Solar Comfort radiant barriers are the engineered solution to window issues."

In fact, they are the only window covering products that are

"Space Certified Technology"

CERTIFIED SPACE TECHNOLOGY™