

Your Home— Getting Better with Chemistry

from **Celebrating Chemistry**



Thanks to the research done by chemists and engineers, homes today are built with different materials than what they were built with about 50 years ago. Although the newer materials serve the same purpose as the older products, builders like to use the newer materials because they can be less expensive, faster and easier to apply, or simply work better.

A good example is in the case of slate versus asphalt shingles for the roof. Slate is a rock whose fine grain, delicate colors, and ability to break apart in sheets made it a popular choice for shingles up to the early part of the 1900s. It is still among the most durable roofing materials available. It can last up to 100 years or more, but is quite expensive and takes a longer time and special skills to apply to a roof. Asphalt shingles, the preferred option by the 1960s, are made from fiberglass and then

covered with asphalt, a sticky, black and thick liquid. The asphalt is covered with crushed rocks to give it different colors. Asphalt roofs are less expensive, easy to install, and these days can last 15–40 years.

Sometimes newer products are good to use because they are safer, like in the case of paint. Lead was added to paint both as a color and to help it dry faster and last longer. When researchers discovered that lead can be a health hazard, its use was banned in formulas for household paint. Chemists have developed safer chemicals for paint that actually allow it to dry even faster than before.

Read the chart below to find out other materials that were formerly used to build homes and what is commonly used today. The column labeled “Yesterday” lists the primary material once used. The column labeled “Today”, on the right, lists what’s likely to be found in newer homes, though some older material is still in use too. Ask an adult what building materials are in your home.

	YESTERDAY	TODAY
Walls	Plaster	Drywall
Plumbing	Lead or iron	Copper or PVC
Wiring	Aluminum	Copper
Windows	Single pane glass	Multi-pane glass with argon gas in between
Treated Lumber	Arsenic	Copper sulfate
Siding	Aluminum or wood	Vinyl or fiber-cement composite
Insulation	Rock wool	Fiberglass or cellulose
Paint	Oil-based	Water-based
Exterior Doors	Wood	Fiberglass, vinyl or steel
Roof	Slate	Shingles

