

2006 National Chemistry Week: *Cleveland Style*: Your Home – It's All Built on Chemistry

Here are some websites and books for information relating to the house we "built" and explored using hands-on experiments. Go to http://www.csuohio.edu/cleveland_acs/NCW/ncw.htm to get this page on-line and link directly to the following websites.

#1 Concrete

The largest continuous pour of concrete in Cleveland's history was for the Cleveland Public Library (7,000 cubic yards!) <http://www.cpl.org/main-library-history.asp>

Here are some websites about concrete:
<http://www.mii.org/pdfs/classroom.pdf> and
<http://en.wikipedia.org/wiki/Cement>

#2 Microstructure

To "zoom" down to atomic scale go to

<http://www.strangematterexhibit.com/jump.html>

and click on the "ZOOM" option.



#3 Glue

Directions to make glue: <http://pbskids.org/zoom/activities/sci/glue.html>

Go to <http://pslc.ws/macrog.htm> and click on "kids Macrogalleria enter," then click on "Kinds of Polymers", then click on polyethylene to see what Tyvek® is made of.



#4 Humidity

#5 Tyvek

** Take Home Experiment – using your Tyvek® square **

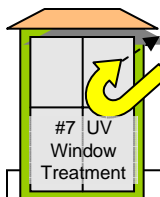
Put water in 3 baby food jars. Cover one with a double layer of plastic wrap, one with your piece of Tyvek® from the NCW program, and leave one uncovered. Use rubber bands to keep the covers in place. Observe the rate at which the water leaves (evaporates from) the jars, for up to a week or more. In the program we demonstrated that Tyvek® is waterproof (stops liquid water) and this experiment will show you that it allows water in the vapor form to pass through.

#6 Insulation



For info on transfer of heat:

http://www.radiantbarrier.com/physics_of_foil.htm



#7 UV Window Treatment

Click on the house, then the window (insulated/double glazed) in

http://www.physics.org/PhysicsLife/Web/physics_life/life.asp

Click on the black windows of the house in

http://www.nist.gov/public_affairs/nhouse/index.html

#8 Hard Water

#9 Clean Water



Cleveland celebrates the 150th anniversary of municipal water service this year, 2006!

www.clevelandwater.com

#10 Recycle!

<http://www.cuyahogawd.com/pdf/PassItOn.pdf>

On.pdf shows a list of more than 100 service organizations that accept donations of building materials, used household goods, and clothes.

For a coloring book showing what houses are made of, and how to conserve energy go to:

<http://www.epa.gov/epaoswer/osw/kids/pdfs/k-3.pdf>

For info on composting (making gardens from garbage) go to:

<http://web.mit.edu/civenv/K12Edu/activities/gardens.html>



Check your city's website for recycling of many items. In Cleveland, go to:

<http://cleveland.about.com/od/livingincleveland/a/clevrecycle.htm>

Books: *CDs, Super Glue, and Salsa: How Everyday Products are Made* (Series 1 & 2) 670 C319 - upbeat descriptions of household and high-interest products *Your Naturally Healthy Home: Stylish, Safe, Simple* by A. Berman 696 B456y *Building with Junk and Other Good Stuff: A Guide to Home Building and Remodeling Using Recycled Materials* by J. Broadstreet 690.837 B78b *Recycle! A Handbook for Kids* by G. Gibbons 628.4458 G352r –

what happens to paper and Al cans when they are recycled into something new *Structures: or Why Things Don't Fall Down* by J. Gordon 624.17 G656s *ReadyMade How to Make {Almost} Everything* by S. Berger and G. Hawthorne 745.5 B453r (adult) -turn everyday, disposable items into useful, artsy things; learn some chemistry

Green Living by the editors of E/The Environmental Magazine 640 G823 *Making Things Change* by G. Gibson (Science for Fun Series) 507.8 G357m

Note: There are lots of books on skyscrapers and construction projects – the Brooklyn Toy Library has hard-maple blocks to build your own contemporary structures. ** The Solon, N. Olmsted, and Strongsville Libraries are geothermally heated! **