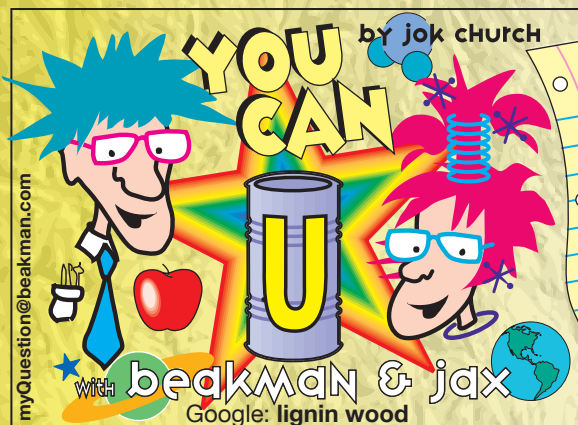


EMBARGOED
Until Release Date



Dear Jax,
What makes old newspaper turn yellow?
Jackson Wintree
Auburn, California

Beakman or Jax
P.O. Box 30177
Kansas City, MO 64112
Questions, name & address

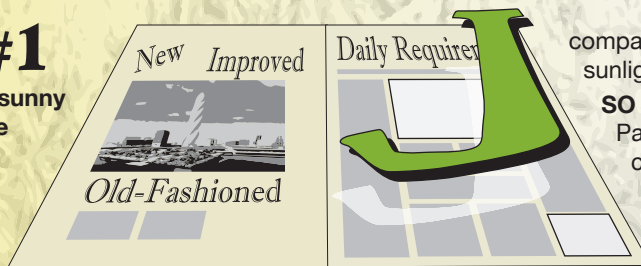
Dear Jackson,
Newspapers can be yellow in several ways. Saying that a newspaper is "yellow" is slang for saying the newspaper is unfair and reports only its own side of news stories. Not a good thing.
Sometimes newspapers turn yellow when you're house-training a puppy. A good thing.
Other times it's a chemical process involving sunlight and oxygen. And it's nearly impossible to stop.

Jax Place
Jax Place

EXPERIMENT #1

WHAT YOU NEED: This newspaper - sunny spot - cardboard - scissors - patience
WHAT TO DO:

Cut out a shape from the cardboard - maybe your initial. Open up the newspaper and lay it in your sunny spot. Put the cardboard on top and don't move it for 5 days. Let the oxygen and sunshine do their work.

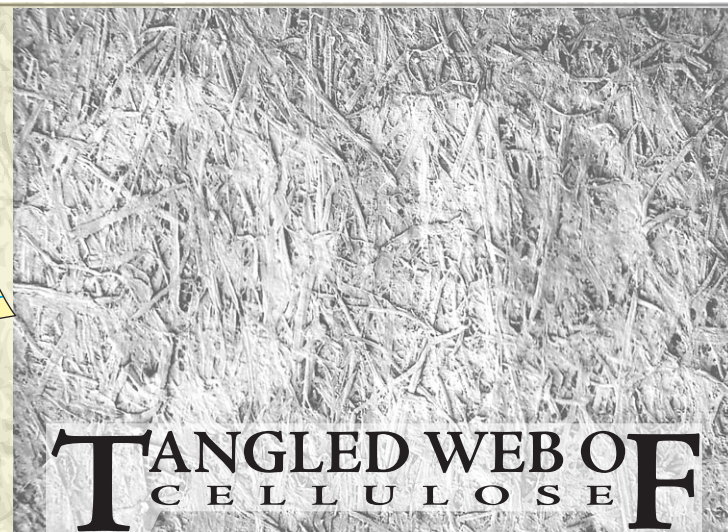


MORE STUFF TO DO: After 5 days, lift off your cardboard and

compare the yellowed newspaper that was in the sunlight with the newspaper that was covered.

SO WHAT:

Paper is made from chewed-up trees - chewed-up plant cells. A chemical that allows plants to stand up stiff is called lignin (LIG-nin). There is a lot of it in newsprint. In sunlight and in oxygen, lignin turns yellow. The lignin also breaks down into a weak acid that will make the paper brittle.



TANGLED WEB OF CELLULOSE

This photograph of newspaper was taken with an electron microscope. In it you can see the cellulose fibers that make up newsprint. Lignin acts a bit like glue in those fibers, holding them together in bundles.

Recycling just knots up the cellulose fibers again and again. Many people seem to like getting their news on the other kind of web. That means there is less newsprint used today.

P.S. from Beakman: If it weren't for lignin, plants could grow only underwater, where they don't need to support their own weight standing up out of the soil. Without lignin, plants are limp.