

# Nifty Tidbits

By **CHUCK RIGBY**

All matter is made of atoms, according to modern scientists. Atoms are made of a nucleus, and electrons which move around that nucleus.

The nucleus is made mostly of protons and neutrons with many other particles which have been identified and named. In a stable nucleus the proton number is the same as the number of electrons while the neutron number can be varied.

However, if the number of neutrons get too large or too small, the nucleus becomes unstable. In order to gain stability, the nucleus releases energy and pieces of matter, this is the source of radioactivity and is called radioactive decay. Most is harmless to living things, but it can be measured with Geiger counters.

In the atmosphere there are many nitrogen atoms and occasionally a cosmic ray from space will change a nitrogen nucleus into an unstable carbon-14 nucleus. Normal carbon is carbon-12, and carbon-14 changes to carbon-12 by radioactivity. The carbon-14 atom will still react with oxygen to produce carbon dioxide which in turn will react normally.

The amount of radioactive carbon dioxide is very small but is measurable and maintains a fairly constant percentage of the total carbon dioxide in the atmosphere. This carbon dioxide is picked up by plants during photosynthesis and all animals get a constant percentage by eating the plants or eating other animals which eat plants.

The percentage of carbon-14 in the body of a plant or animal remains constant until they die, then the carbon-14 percentage begins to drop as it changes to carbon-12.

In 1947, Willard Libby first proposed his theory concerning the process of using carbon-14 to measure the age of ancient or prehistoric life. His procedure is based on some built-in, unprovable, assumptions, but it has been tested on materials which have known ages and has proven reliable.

The percentage of carbon-14 in the atmosphere, and in living organisms, is measurable for the present time. The rate by which carbon-14 decays to carbon-12 is also fairly constant and is able to be calculated mathematically.

The assumptions are: 1. That the amount of carbon-14 in the atmosphere of past ages is the same as now; 2. That the rate of radioactive decay has remained relatively constant during the intervening time. The process of determining the age of an object, is simply measuring the percentage of carbon-14 present in the specimen, then comparing this to the percentage in a similar material of today. This will show how much carbon-14 has changed to carbon-12, and consequently how much time was required to make that change. It is considered only reliable up to 60 thousand years.

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# From the E-Mail Bag

Only in America:  
 ... can you get a pizza in big cities faster than you can get an ambulance ...  
 ... are there handicap parking spaces in front of skating rinks ...  
 ... do drug stores make the sick walk all the way to the rear of the store to get their prescriptions, while healthy people can buy cigarettes at the front ...  
 ... do people order double cheeseburgers, large fries, and a diet cola ...  
 ... do banks leave both doors open, but chain the pens to the counters ...  
 ... do we leave cars worth thousands of dollars on drive-ways, and put our useless junk in our garages ...  
 ... do we use answering machines to screen calls and then have call waiting so that we won't miss a call from someone we didn't want to talk to in the first place ...  
 ... do we buy hot dogs in packages of 10 and buns in packages of eight ...  
 ...do we use the word "politics" to describe the process so well, as "poli" in Latin means "many," and "tics" means "bloodsucking creatures" ...  
 ... do we have drive-up ATMs with Braille lettering.

**ASVAB TEST PREP**  
 for entering military  
 Kerby Belt Building 592-2103  




**BISCUIT FIRE REPLANTING** - Members of the Boys & Girls Club in Cave Junction last week became the first to plant 175 native trees along riparian areas burned by the Biscuit Fire. The work was done at Ronnie Chittum's place on Illinois River Road near Selma. Peter Brister (top) is shown planting alongside burned shrubs; and Kayla Starbuck (below in foreground) with (from left) Karen Garcia and Brister. Also on the project were Brandon Sells, Justin Norvell and Canyon Glenn. (Photos by Forestry Action Committee.)



# Fishin' For Savings Friday Jan. 10

## Shop Smart FOOD WAREHOUSE

205 Watkins St., Cave Junction 592-3333 Bakery & Deli 592-6898

**Fresh Dungeness Crab - \$2.88 lb.**

**Fresh Atlantic Salmon Fillets- \$2.98 lb.**

**Maine Lobster Tails - 4 to 6 oz. - \$17.98 lb.**

**Cooked Prawns - \$5.98 lb.**

**Raw Tiger Prawns - 16-20 ct. - \$8.58 lb.**

**Raw Tiger Prawns - 26-30 ct. - \$6.39 lb.**

**Fresh True Cod Fillets - \$4.89 lb.**

**Fresh Red Snapper Fillets - \$4.48 lb.**

**Salad Shrimp 5 lb. bag (approx.) \$2.98 lb.**

**Scallops - \$5.98 lb.**

**NO Rain Checks!**

**DON'T MISS THIS ONE!**

**Fresh Atlantic Salmon \$2.48 lb. \* Fresh Atlantic Salmon Steaks \$2.98 lb.**

**Supply subject to stock on hand & coastal weather conditions.**