

• New Ideas and Gadgets •

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☞ **CHILD'S DRINKING STRAW** of polyethylene plastic is a hollow globe, with a mouthpiece on one side and a lip on the other, that turns ordinary soda into a fizzy, flavorful treat. Ice or ice cream is put in globe and its lip is inserted in bottle neck. As soda is sucked through the globe, it stirs up a rich cold froth.

• Science News Letter, 79:32 January 14, 1961

☞ **UTILITY KNIFE** has retractable blade controlled by safety button. A push of the button can project and retract razor-keen blade from the handle to two cutting positions: fully extended and one-quarter extended, the correct depth for opening cartons. Contoured 6½-inch handle has storage area for extra blades.

• Science News Letter, 79:32 January 14, 1961

☞ **CONCRETE PATCH** for do-it-yourself repairs on all concrete surfaces, swimming pools, and open brick or stone joints is rubber-based and more resilient than concrete. It does not crack when exposed to expansion and contraction, is excellent for leveling uneven surfaces, and will adhere to almost any surface.

• Science News Letter, 79:32 January 14, 1961

☞ **DISPOSABLE HOSPITAL MASK**, shown in the photograph, has more than 90% bacteria filtration, adjusts to any face, reduces fogging of glasses, provides unobstructed field of vision and allows easy



speech. It has no contact with the face, except at the edge. Saucedish-shaped, the entire fabric of the random-web, non-woven mask serves as a filter, giving five times the filtering area of gauze masks.

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☞ **DISPOSABLE MOLDS** for serial sectioning of biological specimens are made of polyethylene plastic that is not affected by

hot paraffin and refrigeration. They permit easy and economical embedding of specimens in paraffin or celloidin and can be peeled away after the paraffin has hardened. Molds come in a variety of sizes.

• Science News Letter, 79:32 January 14, 1961

☞ **PERSONAL RADIATION MONITOR**, about the size of a fountain pen, emits a warning tone and flashes a small neon lamp in the presence of a gamma radiation field. Its greatest value would be the immediate warning given in a radiation accident. Developed at Oak Ridge National Laboratory, it is not yet on the market; but some of the new instruments are being purchased by ORNL from commercial manufacturers.

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☞ **TOILET LATCH** prevents baby from dropping toys and other objects in the bowl and can be attached quickly and easily without tools. Made entirely of plated steel, it does not mar equipment and is sanitary and easily removable by adults and older children.

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☞ **NAILSET** has a rubber pillow to serve as a safety grip and wedge for pulling out nails without marring the surface. Wedge prevents nailset from rolling away and takes the sting out of setting.

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Nature Ramblings

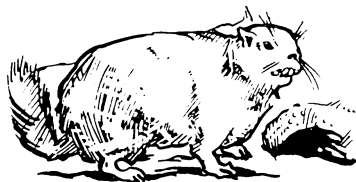


► **ATTRACTIVE** as the idea of hibernation may be—to curl up in a ball and sleep while the rest of the world scurries through the snow in search of food—few mammals spend the winter in this manner.

Some mammals, such as the common skunk, hibernate only during the severest weather and rarely for more than a month at a time. The black bear is a light sleeper and is easily awakened. Its lethargy does not become so deep nor does its temperature drop so low as in other hibernating mammals.

Winter-long hibernation overtakes only a few of our furry friends, such as the woodchuck, the chipmunk, the raccoon, the jumping or kangaroo mouse, and the woodland jumping mouse. These small creatures retreat to their dark, quiet burrows and dens between September and November and emerge in February or March. The little brown bat, another winter sleeper, hangs himself upside down in his own cave or migrates to another, more suitable

Mammalian Hibernation



hibernating shelter.

Although cold, hunger, darkness and quiet are important in bringing about hibernation, the phenomenon remains a puzzle. Different individuals of the same species show a wide variation in response to these factors and, when kept in a zoo, natural hibernators seldom if ever hibernate.

Experts do know that particular physiological changes take place before and during hibernation. Mammals unconsciously prepare for their long sleep by weeks of heavy eating and fattening, and the fatter animals become dormant sooner and wake up later

than the thinner ones.

Hibernation comes about slowly, beginning with a short sleep, a period of waking, a longer sleep, waking and eventually the deep lethargy. One study of woodchucks showed that the transition from full activity to deep dormancy is accomplished within three to 30 days.

In hibernating ground squirrels, the spleen is enlarged; the woodchuck's pituitary gland appears to be inactive; and in all hibernators body temperature drops drastically, and breathing rate and heart beat become slow and irregular.

The active woodchuck has a heart rate of 80 beats per minute, a temperature of 98.6 degrees Fahrenheit, and a breathing rate of 25 to 30 per minute. By contrast, the hibernating woodchuck may have a heart rate of four to five beats per minute, a temperature of 38 degrees Fahrenheit, and a breathing rate of one per minute.

—GLORIA BALL

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