**Hibernation**

**Alligators hibernate. *(L. M. Boyd)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*A bat in its quick descent into hibernation can slow its heartbeat from 180 to three beats a minute and bring its respiration down to one breath every eight minute. A lab specimen in that cool condition can be kept – quite harmlessly, I’m told – in a refrigerator. *(L. M. Boyd)***

**An authority on wildlife says most people don't realize hibernating bats and their young shouldn't be disturbed. Thousands of these critters die in their caves each year because spelunkers wake them up. (L. M. Boyd)**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Body temperature of a hibernating bear is 91 degrees Fahrenheit. Some brave men found that out. *(L. M. Boyd)***

**How bears survive long winters: Hibernating bears have always posed a scientific puzzle. How do they keep from wasting away while not eating or drinking for seven months? To find out, University of Alaska scientists studied five wild black bears they installed in specially built wooden dens, recording the bears’ vital signs for every second of their winter slumber. The bears’ secret: While hibernating, they slow their metabolism to just 25 percent of the normal rate – a more dramatic change than is seen in any other hibernating animal. By essentially shutting down their metabolism, while keeping body temperature relatively stable, bears can go the entire winter without eating, drinking, urinating, or defecating. In fact, the researchers found, the bears’ hearts sometimes stopped beating for up to 20 seconds as they exhaled (and sometimes snored). Figuring out how bears go into suspended animation could lead to new ways of keeping people alive after accidents or heart attacks, and might also enable astronauts to survive long voyages in space, study author Brian Barnes tells BBC.com. “It’s just this alternative way of being,” he says, “that we didn’t know was possible.” *(The Week magazine, March 11, 2011)***

**Katmai National Park in Alaska is one of the world's best places to see brown bears in the wild. All summer long, the bears are active along the Pacific coast, eating sedges, clams, and salmon. And eat they must, for the bears must store enough fat to survive their winter hibernations. The bears grow so enormous that, each fall, Katmai celebrates the week leading up to the first Tuesday of October as Fat Bear Week. Fans can watch videos of the bears online to see which bear grows the fattest. Last October, a bear known as 747 grew to over 1,000 pounds. *(The Daily Chronicle)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*How can bugs hibernate in winter without freezing? Some insects can drain their bodies of water. Bloodstreams of others contain 50 percent glycerol, a natural antifreeze. *(L. M. Boyd)***

**Northern frogs hibernate. Southern frogs don’t. That’s why southern frogs grow bigger. They get more growth time. *(L. M. Boyd)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**If a mama grizzly bear hibernates from the first heavy snow until spring, yet gives birth in January, what does the cub do during those two or three more months as mother snoozes?  Nurses mostly. And naps. *(L. M. Boyd)***

**What's a grizzly bear's normal body temperature? Awake, it is 101 degrees Fahrenheit; hibernating, 89 degrees minimum. *(L. M. Boyd)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Suppose we invaded the den of a hibernating hamster. Its heartbeat -- normally 400 beats per minute -- would be about four beats per minute. The hamster would breathe at the rate of once every two minutes, and its rate of metabolism would be about one-thirtieth of its normal rate. (James Wiley)**

**A big reason you hardly ever see any Finnish hedgehogs is that they hibernate seven months a year and sleep 18 hours a day the rest of the time. *(L. M. Boyd)***

**Life processes slow down during hibernation. Jumping mouse took only one breath every fifteen minutes. *(James Wiley)***

**Perhaps I am a bear, or some hibernating animal underneath, for the instinct to be half asleep all winter is so strong to me. *(Anne Morrow Lindbergh)***

**The hibernating marmot needs a full two hours just to wake up in the spring. *(L. M. Boyd)***

**Among polar bears, only expectant mothers hibernate. *(L. M. Boyd)***

**In his science class, my ten-year-old grandson Jeff was studying about hibernation. He brought his test paper home the day after the exam. One question was: “Into what state of inactivity do animals go during the winter months?” Jeff had penciled in: “Florida.” (Ruth Schrott, in Reader's Digest)**

**Some birds and many mammals are capable of slowing their metabolic processes to far below their normal rates during periods of hibernation or semi-hibernation. Certain fish and insects can survive being frozen solid or dried up like apricots. One stoic snail was mistaken for dead and kept on exhibit at the American Museum of Natural History for three years before rousing itself and breaking free from the placard to which it had been attached. (Bartleby Nash, in Mother Nature's Greatest Hits, p. 3)**

**Snails sleep a lot. In addition to several months of winter hibernation, they crawl into their shells to get out of the hot sun, which dries them, or heavy rain, which waterlogs them. Desert snails may even doze for three or four years. *(Isaac Asimov’s Book of Facts, p. 87)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The Mojave ground squirrel, found mainly in the American West, hibernates for two-thirds of every year. *(David Louis, in Fascinating Facts, p. 12)***

**Blood of the deeply sleeping Arctic ground squirrel does not crystallize at temperatures below freezing. *(L. M. Boyd)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**However much wood a woodchuck chucks, it only does it four months a year. It hibernates the other eight months. *(L. M. Boyd)*A woodchuck breathes only  ten times per hour while hibernating. An active woodchuck breathes 2,100 times an hour. *(Isaac Asimov’s Book of Facts, p. 39)***

**A hibernating woodchuck may lose nearly one-third of its body weight by spring. *(Jeff Harris, in Shortcuts)***

**During hibernation, a woodchuck’s heartbeat may drop from a normal 100 beats per minute to less than 15. A woodchuck in deep hibernation may breathe only once every five minutes. *(Jeff Harris, in Shortcuts)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***