

### Lifespan

With good care the expected lifespan is 60-80 years on average.

### Brief Description

There are several species of box turtle native to North America (ornate box turtles in Colorado) but their wild populations are declining rapidly due to habitat loss, being hit by cars on roads, and from collection for the pet trade. Unfortunately, once taken from the wild box turtles can have trouble adapting to captivity. The box turtle is known for being able to completely withdraw its body into its protective shell and a hinge on the bottom part of the shell allows it to close completely like a box. The shell is living tissue and should never be pierced or painted.

### Sexing

Once mature the males will have an indent on their plastron (belly of the shell) and a longer, more pointed tail with a longer distance between vent and tail tip than the stubby tail of females where the vent is closer to the shell.

### Lighting and Temperature

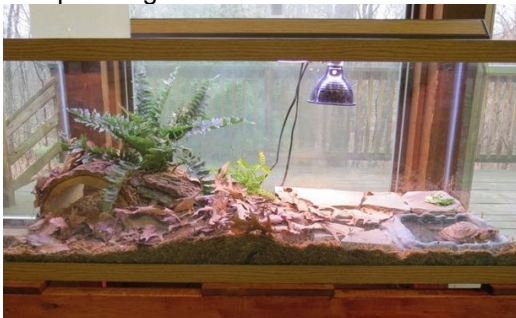
Reptiles need a warm place to bask (**85-90 degrees**) on one side of the cage in order digest food and nutrients properly. The other side of the cage should be cooler (**70-75 degrees**) so they don't overheat. A thermometer should be placed at both ends of the cage to accurately measure temperatures. Lights should be on for 10-12 hours each day and then total darkness at night. Night temperatures can safely drop to 60 degrees, so a night time heat source is not necessary in most homes.

Turtles **MUST** have UVB light to survive and a lack of UVB will lead to Metabolic Bone Disease, severe deformation, and death. A commercially available UVB bulb is necessary as UVB does not penetrate glass or plastic so having the cage near a window does not work. Look for "UVB" listed specifically on retail packaging before buying. *After about 6 months of use most bulbs will stop emitting adequate levels of UVB, even though they are still shining, so it's important to change the bulb every 6 months.*

### Caging

Box turtles need large enclosures (at least 40 gallon tank) or ideally outdoors in a protected outdoor pen. Large storage containers such as Rubbermaid storage boxes or livestock troughs can also be used for indoor enclosures. There should be one or two things for your turtle to hide under - half log, half buried clay pot, etc. Box turtles are great climbers so an outdoor pen will need to be secure to keep turtles in and predators (especially dogs) out. *Males must be kept alone because they will fight with other males or constantly harass females to breed to the point of causing injury. Females may be able to be housed together successfully if the enclosure is large enough.*

Examples of good indoor enclosures:



### Substrate

Box turtles love to burrow and prefer to hide by making shallow burrows in the substrate. A mixture of several of the following is best: organic soil, coco coir, peat moss, sphagnum moss, and/or dead leaves. Avoid cedar/pine/aspen mulches, sand, alfalfa pellets, and sand. Live plants can be planted directly in the substrate (though your turtle may damage them) or kept in pots in the enclosure to provide cover and enrichment for your turtle.



Three-toed Box Turtle



Ornate Box Turtle

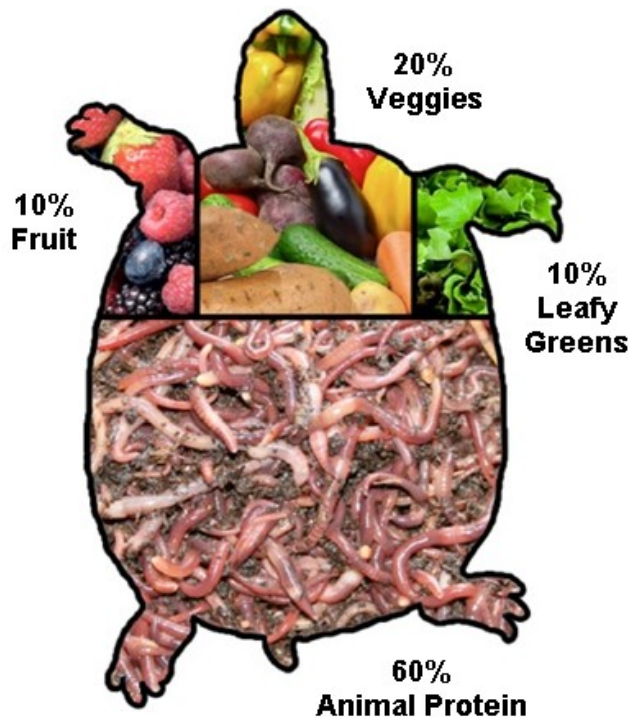
## Humidity

Humidity in the enclosure should be 50-60%. This should be monitored by a hygrometer.

## Food

Box turtles eat a combination of live bugs and vegetables every day when young and every other day as adults. Younger turtles will eat a higher ratio of bugs/worms/protein (80-90%) than adults. The best bugs to use are earthworms, superworms, and crickets. Wax worms and mealworms should only be given as a treat because of the high fat content. A small amount of high quality canned low-fat dog food can be offered up to once weekly. Cat food is too high in protein and should be avoided. Strawberries are a favorite of box turtles. Uneaten food should be removed after 24 hours.

## Box Turtles are Omnivores



<b>60% Animal Protein</b> <ul style="list-style-type: none"><li>• Earthworms</li><li>• Superworms*</li><li>• Crickets*</li><li>• Isopods/sowbugs</li><li>• Hard boiled egg<sup>a</sup></li><li>• Cooked turkey/chicken</li><li>• Low fat canned dog food</li></ul>	<b>20% Veggies</b> <ul style="list-style-type: none"><li>• Butternut squash<sup>a</sup></li><li>• Sweet potato<sup>a</sup></li><li>• Yellow squash</li><li>• Mushrooms</li><li>• Bell peppers<sup>a</sup></li><li>• Carrots<sup>a</sup></li><li>• Opuntia cactus pads</li></ul>
<b>10% Leafy Greens</b> <ul style="list-style-type: none"><li>• Collard greens</li><li>• Dandelions</li><li>• Kale<sup>a</sup></li><li>• Turnip greens</li><li>• Escarole</li></ul>	<b>10% Fruits</b> <ul style="list-style-type: none"><li>• Berries</li><li>• Mango<sup>a</sup></li><li>• Papaya</li><li>• Melons<sup>a</sup></li><li>• Prickly pear</li></ul>
<sup>a</sup> high in vitamin A <sup>*</sup> should be gutloaded before feeding	
<b>Avoid:</b> <ul style="list-style-type: none"><li>• Beans</li><li>• Broccoli</li></ul>	<ul style="list-style-type: none"><li>• Bread, grains</li><li>• Cabbage</li><li>• Cat Food</li><li>• Corn</li><li>• Dairy products</li><li>• Rice</li></ul>
<b>Supplementation:</b> Calcium (without D3) sprinkled on food 3-4 times weekly until 2 years of age then 1-2 times weekly after that.	
Percentages can be used for individual meals or as a guide for the average of meals over the week.	

## Gutloading

Gutloading is the process of feeding crickets, superworms, and/or dubia roaches a nutritious diet so they can ultimately provide your reptile with the proper nutrients it requires as it would in nature. Supplementing with a calcium and multivitamin powder is important, but not sufficient alone. Commercial gutloading mixes are available but fresh greens and vegetables are much more nutritious. Each time you go to the store get one or two "leafy greens" on the list above, then rotate them for something else next time. The "veggies" on the list above can be used in addition to the leafy greens. Make sure you wash all produce to eliminate pesticide residues and cut off the peel of fruits and vegetables as they have waxes and pesticides you can't wash off. The time from feeding insects to your reptile eating those insects should be 6-24 hours, and gutloading must be done before every feeding to be successful.

## Supplementation

A powdered calcium supplement (without phosphorus) should be lightly sprinkled over the food 3-4 times weekly until 5 years of age and then 1-2 times weekly after that. A piece of cuttlebone in the enclosure will also provide calcium and help keep the beak short.

## Water

A shallow water dish at least as big as your turtle with fresh water must be available at all times. The dishes used under potted plants are excellent for water dishes since they have shallow sides and they're inexpensive. The terra cotta dishes also help keep toenails short as they crawl in and out.

## Hibernation

If kept indoors hibernation is not necessary and turtles will not hibernate if warm temperatures are maintained. If hibernation is attempted then temperatures need to be reduced to 40-45 degrees consistently (24 hours a day). Temperatures not cold enough to hibernate but not warm enough to have normal activity causes illness and severe digestive problems. There are risks with hibernation so embark with caution (see additional handout on hibernation).