

## Eastern Box Turtle (*Terrapene carolina carolina*)

### Difficulty: Intermediate

Eastern box turtles are 4.5-8"/11-20cm long, terrestrial reptiles with a domed shell, short legs, and a uniquely hinged plastron that allows them to tightly seal themselves inside when they feel threatened (thus the common name, "box" turtle). This subspecies usually has a base color of dark brown, with a varied pattern of stripes, blotches and spots that may be red, yellow, orange, or some combination of the three. Mature males are generally more attractively colored than females, and may also display red irises.

Eastern box turtles are native to extreme southern Ontario and the eastern United States, excluding most of Florida and the extreme northeast. They generally prefer moist habitats such as forest, hardwood swamp, marshy meadows, pasture, and areas near bodies of water.

If you pay attention to providing excellent eastern box turtle care, your pet is likely to have a lifespan of 40+ years.

*Note: Eastern box turtles are illegal to keep as pets in some parts of the US, so check your local laws before getting this pet!*

### Shopping List

The following recommendations are for housing an eastern box turtle indoors.

- 6.5'L x 3.5'W x 2'H enclosure
- 34" T5 HO forest UVB bulb
- 36" T5 HO fixture with reflector
- 22" T5 HO 6500K LED lamp, x2
- 75w PAR30 halogen flood bulbs, x2
- Dual dome heat lamp fixture
- Handheld pressure sprayer
- Digital probe thermometer/hygrometer, x2
- Digital light timer power strip
- 7.5 ft<sup>3</sup> 60:40 sand/soil mix
- Leaf litter
- Hideouts/caves, at least 2
- Misc. décor (hollow logs, flagstone, edible plants, etc.)
- Shallow feeding dish
- 12" plant saucer
- Multivitamin supplement
- Carotenoid supplement
- Cuttlebone

### Housing

Box turtles, like other reptiles, require an enclosure that is large enough to give them adequate opportunity to explore, forage, thermoregulate, and generally exercise natural behaviors. And this species is very active! They will use however much space you can give them. They are also terrestrial, which means that they are a ground-dwelling species, so floor space is more important than vertical space.

A good rule of thumb for housing box turtles is to use the following calculation, based on the animal's expected adult length: Length = 10x adult length, Width = 5x adult length, Height = 3x adult length

Considering that eastern box turtles generally max out around 8"/20cm, the minimum recommended enclosure size for one eastern box turtle is **6.5'L x 3.5'W x 2'H, or 23 square feet of floor space**. In metric, that's 2m x 1m x 0.6m, or 2 square meters.

## Indoors or Outdoors?

It's ideal to house your box turtle outdoors whenever possible. The pen should be placed in a location that is not too wet, with access to both shade and sunshine at all times of day, and it should have well-draining soil. The wall must be at least 2' tall and smooth enough to discourage climbing (concrete blocks work well), sunk at least 12" into the soil to discourage burrowing escapes, and the top of the pen should be covered with wide mesh (ex: chicken wire) to keep out potential predators.

If you live in an area where it's not appropriate to house your eastern box turtle outdoors year-round, you will need to have an appropriately-sized enclosure at the ready indoors. While you can buy an appropriately-sized enclosure custom, it's most cost-effective at this point to build your own. This enclosure should feature a 4-5" tall opaque barrier on the front to discourage pacing.

## Can multiple eastern box turtles be housed in the same enclosure?

Generally speaking, it's best to house eastern box turtles individually rather than in groups, unless you can provide a very large pen.

## Lighting & UVB

Box turtles are diurnal, which means that they are most active during the day. This also means that they need exposure to bright light and UVB during the day to maintain good mental and physical health. **Light sources should be left on for 14 hours/day during summer and 10 hours/day during winter** to replicate natural seasonal rhythms. If you are housing your pet outdoors, artificial lighting of any kind is not necessary.

### UVB Lighting

UVB lighting can be tricky, because in order to get the right strength of UVB (measured by UV Index, or UVI), distance must be considered. To provide appropriate UVB to an eastern box turtle, you will need one [Arcadia T5 HO 6%](#) or [Zoo Med T5 HO ReptiSun 5.0](#) in a reflective T5 HO fixture (preferably [Arcadia](#) or [Vivarium Electronics](#) brand for best performance). This bulb should be roughly **half the length of the enclosure** and **placed on the warm side**, close to the heat lamp(s).

If there is mesh between the lamp and your turtle, the basking area should place its back 13-14"/33-36cm below the lamp. If there is no mesh, the distance must be increased to 17-18"/43-46cm.

*(This recommendation is an approximation. It is strongly recommended to use a Solarmeter 6.5 to determine the best placement to achieve a UVI of around 3.0 – 4.0 in the basking area.)*

### Daylight Lighting

A UVB bulb isn't bright enough to replicate daylight. To get a little closer to this goal, you will need to supplement with a bright, 6500K T5 HO fluorescent or LED lamp, long enough to span 3/4 to the full length of the enclosure. This is particularly important if you are using live plants, but it is also valuable for supporting your turtle's general wellbeing. The [Arcadia Jungle Dawn LED Bar](#) and the [Bio Dude Glow & Grow](#) are preferred.

## Heating

Humans are warm-blooded, which means that our body temperature is regulated automatically. Turtles, however, are cold-blooded (poikilothermic), which means that they have to move between areas of different temperatures to regulate their body temperature. In the wild, box turtles warm up by basking in a sunny spot.

Indoors, you will need at least one halogen heat lamp to properly heat your turtle. If you are housing your pet in an outdoor pen, artificial heating should not be necessary. Nighttime temperatures as low as 50°F/10°C are tolerated. You will need to bring your turtle indoors for part of the year if you live in an area with winter daytime temperatures below 65°F/18°C and nighttime temperatures below the above threshold.

- **Basking area temperature:** 84-88°F / 29-31°C
- **Cool zone temperature:** 70-75°F / 21-24°C

Indoor heating should be turned off at night to allow for a nighttime temperature drop.

To create an evenly-heated basking area, you will need a [75w Philips PAR30 Halogen Flood Bulb](#) (one for juveniles, at least two for adults) and one or two [Zoo Med Deluxe Porcelain Clamp Lamp](#) fixtures. If you notice that the basking area is too warm, dial it down with a plug-in lamp dimmer. If your basking area is too cool, you will need a higher-wattage bulb.

To measure the temperature of the basking area, you will need a digital probe thermometer with the probe placed on the basking surface. There should be another digital probe thermometer on the other side of the enclosure to monitor the cool end of the temperature gradient. Most reptile-branded digital probe thermometers work well for this purpose.

*Hibernation facilities must be provided during winter, whether the turtle is being kept indoors or outdoors.*

## Humidity

As a mesic species, eastern box turtles do best in an environment with higher humidity levels and plenty of moisture. Target an **average of 60-80%**, with daytime humidity never dropping below 51%. You can monitor humidity levels with a [digital probe hygrometer](#) with the probe placed in the middle of the enclosure.

Whether you are housing your turtle indoors or outdoors, it must always have access to a humid hideout. This should be a cave or hide box placed on the cool end of the enclosure and lined with moistened substrate to create a humid microclimate.

To increase general humidity levels in the enclosure, use a [handheld pressure sprayer](#) to moisten the substrate and other surfaces first thing in the morning. Avoid spraying the turtle directly.

## Substrate

For eastern box turtles, it's best to use a naturalistic substrate that is similar to what is found in their native habitat. In other words, you will need some kind of richly organic, moisture-retentive soil. This substrate should be layered at least 4" deep in indoor enclosures, and 12" deep in outdoor enclosures.

**Here are a few options:** DIY temperate mix (40% organic topsoil, 40% Zoo Med Reptisoil, 20% play sand), [Zoo Med Eco Earth](#), [Zoo Med Reptisoil](#), [Exo Terra Plantation Soil](#)

You will also need at least 1"/2.5cm of leaf litter on top of the substrate, preferably more. Eastern box turtles love leaf litter! In outdoor pens, grass lawn can make a great "substrate," but a leaf pile should still be provided.

New eastern box turtles should pass [quarantine](#) before naturalistic substrate is added to their enclosure.

Feces and urates should be removed daily, and contaminated substrate should be scooped out and replaced. Indoor substrate should be completely replaced once every 3-6 months, depending on how diligent you are about daily cleaning.

## Décor

Decorations play a vital role in your eastern box turtle's enclosure as environmental enrichment. Enrichment items encourage exercise, stimulate your pet's natural instincts, and help promote overall wellbeing. And, of course, they make the enclosure look nicer! Without décor, your turtle's enclosure is just a big box of dirt.

Aside from at least 2 hideouts/burrows/caves, here are some other items to consider: hollow logs, downed branches, flat stones, dirt mounds, piles of leaf litter, and edible plants work well as décor in an eastern box turtle enclosure. To determine what plants are safe to use in your enclosure, [The Tortoise Table](#) is an excellent resource. [Tortoise seed mixes](#) are also a good way to stock your enclosure with appropriate plants.

Arrange these items in a way that encourages your turtle to explore, and provides a variety of places to sleep or shelter in during the day.

## Food

Eastern box turtles are omnivorous, which means that they eat both plant and animal matter, depending on what's available. Their diet should be roughly 50% animal matter and 50% plant matter. Young and growing eastern box turtles should be given as much as they can eat every day. Once they near adulthood, this should be reduced to every other day to prevent obesity. Food should always be offered on a plate or tray to prevent unnecessary ingestion of substrate.

**Here is a list of appropriate protein-rich foods for eastern box turtles:** black soldier fly larvae, chicks (pre-killed), crayfish, darkling beetles, discoid roaches, dubia roaches, earthworms, egg (cooked), grasshoppers/locusts, hornworms, isopods, mice (pre-killed), mealworms, millipedes, quail chicks (pre-killed), silkworms, snails (captive-bred only), superworms

**Plant matter should also be made available, such as:** apples, bananas, blackberries, cactus pads/fruit, cantaloupe, collard greens, dandelion greens/flowers, endive, grapes, kale, mulberries, mushrooms (edible), mustard greens, persimmons, romaine lettuce, squash, strawberries, sweet potato, tomatoes

**Appropriate commercial diet options include** [Reptilinks](#), [Mazuri Tortoise Diet](#), [Repashy Veggie Burger](#), and [Arcadia OmniGold](#).

The key to providing your pet with balanced nutrition is VARIETY! This is especially important with eastern box turtles, as they are known to get bored of eating the same thing quickly, and will refuse food.

## Supplements

To make sure your turtle is getting the right nutrients in its diet, it's a good idea to sprinkle its food with [Repashy Superveggie](#) supplement powder. You will also need to provide a [cuttlebone](#) in the enclosure. Aside from being a good source of calcium, it also helps keep your turtle's beak trimmed!

It's also a good idea to provide a carotenoid supplement to help maintain and enhance your eastern box turtle's naturally vibrant coloration. [Repashy Superpig](#) works well for this purpose, used as directed by the label.

## Drinking Water

Your turtle should have access to clean drinking water at all times. They tend to foul the water quickly, so you will need to replace the water daily and give it a good scrub with animal-safe disinfectant weekly. A large [flower pot saucer](#), sunk into the substrate for easy access, makes for a good water dish. The water should be no deeper than your tortoise's knees.