

## ***R & K Reptilez 2023***

Ball Python (*Python regius*)

Difficulty: Easy - Intermediate

Ball pythons (also known as royal pythons) are a terrestrial species of constricting snake native to regions of western and central Africa. They are most often found in semi-arid grasslands, forests, and near agricultural areas. Although frequently found in burrows, they are known to hunt in trees.

Ball pythons are 3-5' long snakes, with males tending to be significantly smaller than females. Ball pythons typically have a thick, muscular body, a peanut-shaped head, a brown and black pattern outlined by white, and a pale belly. However, due to enthusiastic "morph" breeding in the reptile hobby (the practice of breeding for specific colors and patterns), captive-bred ball pythons are now available in an extremely diverse array of colors and patterns. At the moment, there are about 6500 known morphs!

Ball pythons are some of the most popular pet snakes in the United States, as they're manageably-sized, are fairly tolerant of being housed in sub-ideal conditions, are slow-moving, and generally tolerate human interaction well. Ball pythons are known to live upwards of 30 years with good care.

### **Shopping List**

48"x24"x24" reptile enclosure (preferably front-opening)

Dual dome heat lamp with ceramic sockets

90w PAR38 halogen flood bulb, x2

Large piece of flagstone or slate tile, for basking

Plug-in lamp dimmer, x2

Digital thermometer/hygrometer device with probes

Infrared thermometer ("temperature gun")

22" T5 HO forest UVB bulb (Arcadia or Zoo Med brand)

24" T5 HO light fixture with reflector

Pressure sprayer

Surge protector with digital timer

4-6" of moisture-retentive naturalistic substrate

Sphagnum moss

Black plastic hide box, x1

Other reptile hides/caves (at least 1)

Environmental enrichment items (hollow logs, sturdy branches, live/fake plants, etc.)

Large water bowl

Feeding tongs, at least 12"

## Housing

Leading modern ball python husbandry experts recommend keeping ball pythons in no smaller than a 120 gallon (48”L x 24”W x 24”H) enclosure. There are many outdated sources which claim that ball pythons don’t need a lot of space, and even prefer small enclosures no larger than a 40 gallon tank or tub. However, these claims are not science-based, and a 48”x 24”x 24” enclosure has been determined to be the minimum amount of space for promoting adequate thermoregulation, exercise, and general welfare for ball pythons.

Can multiple ball pythons be housed together?

Ball pythons are not social animals, and there is no significant benefit to the animal that would justify keeping two or more in the same enclosure. In fact, keeping multiple ball pythons together can cause competition for food, warmth, hiding places, and other resources, which is likely to prevent the snakes from thriving. So it’s best to keep only one ball python per enclosure.

**Lighting & UVB.** Ball pythons are crepuscular, which means that they are most active at night, particularly around sunset. Many people attempt to use this fact to argue that ball pythons do not benefit from, and are even stressed by, the presence of light in their environment. However, providing a light source is important to helping regulate their day/night cycle and associated hormonal rhythms. UVB lighting has also been proven to be beneficial to ball python health. So although ball pythons can technically survive without UVB light, we strongly recommend providing it in order to promote optimum welfare in captivity.

## UVB Lighting

UVB lighting can be tricky, because in order to get the right strength of UVB (UV Index, or UVI), distance and potential mesh obstruction must be considered. To provide appropriate UVB in a single 48” x 24” x 24” ball python enclosure, you will need a 22” T5 HO Zoo Med Reptisun 5.0 or Arcadia D3+ Forest 6% bulb, placed on the warm side of the enclosure, preferably not obstructed by mesh.

The basking area should be placed as follows:

UVB mounted over mesh: basking area 9-11” below UVB lamp

UVB mounted under mesh: basking area 15-18” below UVB lamp

(These recommendations are approximations based on available data.

For best results, use a Solarmeter.6.5 to determine the best placement to achieve a UVI of 2.0-3.0 in the basking area.)

## Heating

Humans are warm-blooded, which means that our body temperature is automatically regulated. Ball pythons, however, are cold-blooded, which means that they have to move between areas of different temperatures in order to regulate their body temperature. Ball pythons warm up by

sleeping in warm burrows or even in patches of sunlight. In captivity, using a halogen flood heat bulb is the best way to replicate the type of warmth provided by sunlight.

Basking surface temperature: 95-104°F (35-40°C)

Warm hide temperature: 86-90°F (30-32°C)

Cool hide temperature: 72-80°F (22-27°C)

Nighttime temperature: 72-78°F (22-26°C)

Generally speaking, 90w PAR38 halogen flood bulbs should be plenty to achieve your target basking surface temperature, especially if the basking rock is placed 9-11" below the heat lamp. The basking rock should be placed on top of the black plastic hide box, which will act as your warm hide. If you notice that they're getting too hot, dial it down with a plug-in lamp dimmer. If your basking surface is too cool, you need higher wattage bulbs.

The heat lamp should be able to warm the hide box to the target temperature, but this can vary depending on the thickness of the rock on top. If your warm hide is not getting warm enough, add a thermostat-regulated heat mat under the hide box, covered with 1" of substrate to prevent direct contact. Place the thermostat probe inside the warm hide to regulate temperature.

To measure the basking surface temperature, use an infrared thermometer (a.k.a. temperature gun). To measure the temperature of the warm hide, use a digital probe thermometer. The Etekcity 774 is a good infrared thermometer, and most reptile-brand digital probe thermometers function well.

## Humidity

Ball pythons need a range of humidity levels from 45-75% in their enclosure, as measured by a digital probe hygrometer with the probe placed inside the cool hide, which is where humidity should be highest. Humidity levels that are consistently higher or lower than this range can make your pet unwell.

To raise humidity in your snake's enclosure, you can use a pressure sprayer to mist the habitat twice a day in the early morning and late evening. If more is needed, place moistened sphagnum moss inside the cool hide. Check and change this moss regularly to prevent mold growth. Placing a layer of leaf litter on top of the substrate can also help maintain humidity.

## Substrate

Ball pythons are healthiest and happiest when they are housed on a substrate (a.k.a. "bedding") that imitates the conditions of their natural habitat and facilitates moderate to high humidity. Soil is generally best for meeting this need.

Zoo Med Reptisoil, Zoo Med Eco Earth, Exo Terra Plantation Soil, and Lugarti Natural Reptile Bedding are the most soil-like commercial substrates. Reptichip and sugar cane mulch can also be suitable in a pinch. Alternatively, you can use a DIY mix of 40% organic, additive-free topsoil + 40% Zoo Med Reptisoil + 20% play sand.

Provide a substrate layer that is 2-4" deep. Although ball pythons don't dig, deeper substrate is better able to help maintain humidity. Provide a generous layer of clean leaf litter on top, plus sphagnum moss if desired.

Feces and urates should be removed daily, and contaminated substrate should be scooped out and replaced. Substrate should be completely replaced once every 3-4 months.

## **Décor**

Decorations play an important role in your ball python's enclosure as environmental enrichment. They are not the "pet rocks" that many claim them to be. Although they may not be as active as some other snake species, ball pythons are still well known to climb and explore. In fact, there are some who argue that ball pythons are in fact semi-arboreal! Enrichment items encourage exercise, stimulate your snake's natural instincts, and help promote overall wellbeing. And, of course, they make the enclosure look nice!

Décor ideas: additional hideouts/caves, cork logs, sturdy branches, sturdy live or artificial plants.

## **Food**

Ball pythons are carnivores, which means that they need a diet of whole animal prey in order to get the nutrition that their bodies need. How often they need to eat can be calculated by weight:

- Hatchlings (up to 5 weeks old) — every 5 days
- Juveniles <200g — every 7 days
- Juveniles 200-350g — every 7-10 days
- Juveniles 350-500g — every 10-14 days
- Subadults and adults 500-1500g — every 14-21 days
- Adults >1500g — every 28-56 days

A good rule of thumb is to provide a prey item(s) which totals around 10% of your snake's weight, assuming that it is not obese. Individual prey items should be no larger than 1.5x the snake's width at its widest point.

Although rats and mice are the most common feeders, ball pythons need to eat more than just rats and mice to truly thrive. The key to providing a healthy, balanced diet for your pet snake is VARIETY. Provide as varied of a diet as you possibly can, and you will be rewarded with a healthier, less picky snake.

Prey item ideas: mice, African soft-furred rats, domestic rats, quail, chicks

It's best to offer frozen-thawed prey rather than live to your pet snake. This is safer for the snake and generally considered to be more humane as well. Prey should be thawed in a plastic bag in warm water to around 100°F/38°C before offering. Use soft-tipped feeding tweezers to reduce the risk of getting accidentally bitten when the snake strikes.

## **Supplements**

Ball pythons can survive without vitamin or mineral supplements, but using them occasionally is a good way to help prevent nutritional deficiencies. Every once in a while, lightly dust the prey item with a 50/50 mix of calcium and multivitamin before thawing.

Arcadia Earthpro-A and Repashy CalciumPlus LoD are both good supplements to use.

## **Water**

Your ball python should have free access to a large bowl of fresh, clean water daily. It should be large enough for your ball python to curl up inside if it's in the mood for a soak.