

The Importance of UV Lighting for Reptiles

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The lighting you choose to use in your reptile's habitat is very important, both for its physical and mental well-being. Natural, unfiltered sunlight is the best source of UV light, however this can be difficult to provide, especially when you take into consideration that the natural lighting for many of these reptiles is much different than what they will receive in most of the United States.

Proper [lighting](#) is much more involved than simply hanging a regular light bulb over their habitats. Most reptiles need [full spectrum lights](#) in their habitats to provide them with UVA and UVB light, neither of which is supplied by regular light bulbs. Determining which bulbs to use, how to use them, and then setting them up is a process that takes time and effort. But why is the light in your herp's habitat so important to his overall health?

Reptile Vision and UVA Light

Humans have three types of color receptors or cones - red, green, and blue. Reptiles have these cones as well, but they also have a fourth type of cone which allows them to see UVA wavelength light between 320 and 400 nm. This allows them to see colors and patterns in ways that humans can't.

Seeing UV light allows them to recognize other reptiles of their same species and detect movement. It also stimulates appetite by making food more appealing. The presence of [UVA light](#) promotes proper foraging, feeding, digestion, activity levels, social behavior, reproduction, and basking.

Using artificial lights that have been designed for humans or lights that do not provide full spectrum light deprives reptiles of UVA light and causes serious behavioral, physiological, and health issues. Lack of UVA light impairs their ability to interact with their environment and other animals within it, causing unnecessary stress and affecting their overall well-being.



UVB Light and Vitamin D3

[UVB light](#) is necessary to maintain proper Vitamin D3 and calcium levels in your reptile's system. When a reptile is exposed to UVB light, the UVB light regulates the synthesis of Vitamin D3 in his skin. It is Vitamin D3 that allows reptiles to properly absorb and metabolize calcium. In fact, UVB light is the primary source of D3 for many reptiles. While you can purchase Vitamin D3 supplements to give to your reptiles, many herps will utilize the Vitamin D3 they make much more efficiently than what they ingest.

Vitamin D3 functions in a number of different capacities in a reptile's body, including:

- Metabolism of minerals, like calcium
- Regulation of the immune system
- Promotion of proper organ development

Reptiles that do not get enough UVB light do not make enough Vitamin D3, and they suffer from chronic calcium deficiency, or hypocalcemia. Lack of [calcium](#) can cause painful diseases, such as metabolic bone disease.

While it is highly important that reptiles of all ages get sufficient exposure to [UVB light](#), it is crucial that young and juvenile reptiles get enough. Metabolic bone disease can cause irreversible bone deformities and can be fatal if not treated.

To serve its purpose, UVB light must fall into the proper wavelengths between 290 and 320 nm. UVB light that is too low

will not induce the synthesis of Vitamin D3. UVB light that is too high can raise the skin temperature too high, which also impairs the reptile's ability to create D3.

Tips for Providing UV Light

The following tips will help you make sure that you are providing the proper amount of UV light in your reptile's enclosure.

- UV light requirements will vary by species, so research extensively to find out exactly what your reptile's needs are before purchasing any equipment.
- Choose lights that provide no less than 1.1%, of the total irradiance as UVB light. [Lights that provide from 4% to 5%](#) of their radiation as UVB light are better. Again, be sure to research your species' needs, as some reptiles, for example snakes, need very little UVB light.
- No one bulb is going to provide all the lighting your reptile needs. You will most likely need to choose two or more bulbs to provide adequate UV light.
- Leave UV lights on at all times during the day. Reptiles will move in and out of them as they need. Some reptiles will spend hours under the light, while others will move under it for short periods.
- Use UV lights to provide daily and seasonal changes, such as longer light periods in the summer and shorter in winter.
- Be sure to provide the appropriate intensity of light across the full spectrum.
- Place the lights so they are approximately 12" to 18" from the spot that your reptile will lie.
- Make sure that the [heat lights](#) and some of your UV lights shine down on the same area of the enclosure so your reptile will be able to utilize both.
- Never use lights that provide UVC light. It is unnecessary and even harmful.
- Replace UV bulbs at least every six to twelve months, more frequently for some brands. Failure to change them, as directed, can result in decreased UVB output from the bulb.
- Glass and most plastics will block UV light, so be sure to install lights above a [wire mesh lid](#) with wide spacing. Lights mounted inside the cage should be behind wire or some kind of set-up that will withstand any attempts by your reptile to get at it. You can also use reflectors to intensify the UV light.
- Assess the set-up regularly and modify it as needed based on your reptile's health.



Reptiles vary widely in their UV light requirements, but one fact is common to all species: they are all adapted to natural sunlight, and there is no way that you can exactly replicate their natural environment in captivity. However, with the right knowledge and set-up, you can copy it as closely as possible.