FAQs: Heating

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Because reptiles cannot produce their own body heat and instead rely on outside sources to warm or cool them, providing the proper temperature range in their habitats is especially important. There are many different kinds of heat sources that you can use, and reptiles vary widely in their heating requirements. The following information will help you to understand why heating is so important and what you can do to meet your herp's heating needs.

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Why do I need to provide a heat source for my reptile?

Reptiles vary widely in their temperature needs, and many of them will require temperatures that are significantly higher than your ambient room temperature. Some will even need basking areas that range from 90° to 100°F or higher. Additionally, it is important to provide a temperature gradient within the habitat, and simply leaving the enclosure at room temperature is not going to do this.

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What effect will improper heating have on my reptile?

Every reptile has a preferred optimum temperature range, or POTR, and his habitat must be maintained in that range for his overall health and well-being. Temperatures that fall above or below the designated range can decrease appetite, negatively affect digestion, and cause high levels of stress that leave your herp more susceptible to illness. Improper temperatures will eventually result in death.

That is why it is highly important to set up the heating system before you even bring your reptile home. Set up the entire habitat and make sure the temperatures are able to be maintained in the proper range before putting your herp in it. While you may need to slightly adjust the heating system periodically, you should never test it out when your herp is in the enclosure. We recommend that you have a stable temperature for at least two weeks before placing your reptile in the terrarium.

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What is a primary heat source?

A primary heating source is used to maintain the overall ambient temperature of the enclosure in the proper range. It can include under tank heaters, heating mats, nocturnal heat bulbs, heat lamps, and other products.

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What is a secondary heat source?

A secondary heat source is a product that provides "hot spots" in certain areas of the enclosure, such as the basking area. It helps to create the temperature gradient that your reptile needs. Secondary heat sources are generally lights such as basking lamps or incandescent bulbs.

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What type of heat should I use?

The types of heat you will need to use depend entirely on your herp's heating needs. Reptiles that require a hotter climate will need a more elaborate heating system that includes both primary and secondary heating sources. Reptiles that can be safely maintained at temperatures closer to room temperature may only need a couple incandescent bulbs to make sure their enclosure stays within their POTR. You will need to research your reptile's specific needs to determine what types of heating products will be necessary, and be prepared to use multiple heat sources. Very few reptiles can be maintained with the use of just one heating product.

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What lights can be used for heating?

Incandescent bulbs can be used for daytime heating, both as basking lamps and to contribute to the overall ambient temperature. What wattage you need will depend on how large the terrarium is, what purpose you are using it for, and what your reptile's POTR is.

Basking lights are used to create specific areas of heat within the enclosure. They should only be used during the daytime, and they should be approximately 8" to 12" above the basking area.

UV Heat bulbs are a type of flood lamp, and they will provide your reptile with both heat and UV light during the day. They can be used in place of a basking lamp to create additional heat in certain areas while also providing the UVB and UVA light that many reptiles need.

Nocturnal light bulbs can be used to maintain nighttime temperatures in your herp's enclosure because they produce very little or no visible light to disturb normal nocturnal activity. These types of bulbs can include red reptile bulbs, infrared heat lamps, and black exotic pet bulbs. They can be used for nocturnal species as well as diurnal.

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What heat sources can I use that don't emit any light?

There are several options for sources that create heat but don't emit any light. They include heat wave lamps, under tank heaters, heat mats, and infrared heat lamps. All of these products can be used to maintain temperatures 24 hours a day for both nocturnal and diurnal reptiles. Which one will work best for you will depend on the size of your herp's enclosure and his heating needs.

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Why do I need a basking lamp and what does it do?

A basking lamp is necessary to create the high end of the temperature gradient in your herp's cage. It focuses the heat into a narrow area that your herp will lie in when he needs to raise his body temperature.

All diurnal reptiles will spend at least part of their day basking in the sun in their natural environment, and a basking lamp is meant to simulate the heat and light of the sun. There are some basking lamps that also emit UV light, but most are used solely to create heat and visible light.

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To create the proper amount of heat in a basking area, the basking lamp should be approximately 8" to 12" above the area where the reptile will bask. Putting it closer can result in burns. Basking lamps should only be used during daylight periods.
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Why do I need to create a temperature gradient?

Reptiles are ectothermic, which means that they cannot create their own body heat and must therefore rely on external sources from their environment to maintain their body temperature. They move into cooler areas when they need to cool down and warmer areas when they need to raise their body temperature. This is referred to as thermoregulation. If you were to keep their habitat all at one temperature, they would not be able to move within the gradient to maintain the proper body temperature.
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Should my temperature gradient by horizontal or vertical?

What kind of temperature gradient your herp requires depends on whether it spends much of its time in trees and other high areas (known as arboreal) or if it spends its time on the ground. Arboreal reptiles will need both a horizontal and vertical gradient, and branches and other accessories should be placed in such a way that it can bask closer to the basking lamp or on the ground. Reptiles that do not climb will only need a horizontal temperature gradient.
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How do I know if the habitat is too warm?

You absolutely must use at least one thermometer to monitor habitat temperatures at all times. Larger terrariums may need two or three in each section of the temperature gradient. You can choose from a variety of different styles, including analog thermometers, digital thermometers, liquid crystal thermometers, and more.

Signs that your reptile is overheated include:

- Avoiding the basking area
- Staying in the shade
- Panting
- Burrowing into substrate

If you see any of these signs, immediately lower the temperature in the enclosure and reassess your heating system.
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What temperature range does my reptile need?

This varies widely depending on the reptile you are keeping. A general rule of thumb is that tropical species need temperatures between 80° to 100°F, desert species need high daytime temperatures of around 80° to 100°F with a cooler nighttime temperature, and temperate species will need a range between 70° and 90°F. However, this is only a guideline, and it is imperative that you research your individual herp's needs rather than just guess.
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Where should I put the heat sources?

Where the heat source is will depend on what type of heating product you are using. All light bulbs should be placed outside the top of the enclosure or, if they are inside, they must be covered with a mesh or wire cage so your reptile cannot burn himself on them. Other heat products such as under tank heaters and heat mats will attach to the

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bottom of the tank, either on the outside or the inside depending on the product.
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Can I use a space heater to warm my herp's enclosure?

While space heaters can be used to warm the ambient temperature of the room that your reptile is in, they cannot be used to directly heat the enclosure itself. They can be especially helpful if you have a large reptile whose habitat includes the majority of the room. However, if you do use a space heater, make sure that your reptile cannot in any way come in contact with it. Doing so would cause serious burns and possibly death.
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Do heating needs change with the seasons?

That will depend on whether or not your herp is ever housed outdoors and what the ambient temperature of your house is. If your reptile has an outdoor enclosure, you may need to bring it inside during fall and winter months, depending on the area in which you live.

If your house is cooler during summer because of air conditioning or in the winter because you keep your thermostat low, you may need to increase the number of heat sources you will need to use or choose more powerful heating products to use. You may also want to move the enclosure to a warmer part of your home.

If you are having problems keeping the enclosure cool enough, try using a timer or rheostat to turn heating sources on at certain parts of the day or turn off some of the heat sources entirely.
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What is a rheostat and why do I need one?

A rheostat is a product that allows you to control more than one heating device to create the proper temperature gradient in your reptile's enclosure. You can use it with ceramic heat emitters, heat pads, under tank heaters, incandescent heat bulbs, and other heating products. Just plug the heating devices into the rheostat, and then use the dial on the rheostat to adjust how much electricity goes to the heating devices. This will cause them to create more or less heat, depending on the setting you choose.

While you don't absolutely need one, they are very helpful in maintaining temperatures, especially during seasons of the year when you may need to adjust your heating system. They allow you to more closely regulate the temperatures in your reptile's habitat, keeping your herp healthier and safer.
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Can I use hot rocks?

We highly recommend that you avoid the use of hot rocks with all reptiles. It is very easy for your reptile to burn himself on a hot rock or with any other source of heat that it can have direct contact with. Using heat sources that are installed above or under the enclosure are much safer and more effective.
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Are there any reptiles that are comfortable at "room temperature"?

Yes, there are some reptiles that are safe at an overall temperature range that falls within 65° to 75°F, but most still require basking lamps and other secondary heat sources to help create a gradient.
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