



# Pet Hospital of Peñasquitos

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## Incubation of Reptile Eggs

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The most widely used incubation medium is vermiculite, available from most commercial nurseries, or plant sections of some grocery stores. Vermiculite is mixed with water in an appropriate ratio by weight, such as one part vermiculite to one part water for humid species, or a 2:1 ratio for arid species. In other words, for a humid species if one uses 16 ounces of vermiculite, 16 ounces of water should be added. The vermiculite and water should be mixed well and placed in a clean gallon jar or plastic shoe box or some type of container with a tightly fitting lid. The lid can be removed for air circulation once every week. Eggs should be half buried in the incubation medium and the container opened several times per week to facilitate respiration. Eggs are transferred gently with clean hands to the incubation chamber. The eggs should not be rolled. The same side should remain up as when they were laid. Other incubation mediums that work well for many people including Perlite, peat moss, sphagnum moss, sand, or paper towels. This author prefers vermiculite because of extensive experience with it.

Incubate temperate and tropical species at 80 to 85°F until hatching. Python eggs should be incubated at 86 to 91°F. An incubator is essential to provide stable warm incubation temperatures. A simple incubator can be made from a Styrofoam box raised above a heating pad until the desired temperature is achieved. Also an aquarium filled with water can provide stable heat from a submersible aquarium heater. A variety of other incubators can be purchased or fabricated.

Length of incubation is temperature and species dependent. Higher temperatures sometimes decrease incubation time. Fertile eggs are creamy white with minute blood vessels visible when candled and should slightly swell in size during incubation. Fiber optic candling devices are excellent for checking for fertility. Infertile eggs often grow mold, desiccate, collapse, and are dull yellowish white. If the eggs look good and start dimpling, they could be drying out. Vermiculite will desiccate during incubation; a little misting or water addition should allow the eggs to fill out. If they continue to dimple with humid conditions, they probably are no longer fertile or never were. One can visually check the eggs, but do not pick them up or roll them around.

In all crocodylians, most turtles, and the two species of lizards studied, sex determination is temperature dependent with more males produced at one temperature, more females at another, and a mixture of sexes produced at temperatures in between. In crocodylians, high temperatures favor female development. In turtles, high temperatures favor females although some species produce a majority of females at high and low temperatures and a majority of males at intermediate temperatures. In the lizards studied so far, there is enough variability that no generalizations are forthcoming. Complicating temperature-dependent sex-determination research is the discovery that only during certain critical periods of incubation does temperature affect what sex will be produced. Therefore the above incubation temperatures may result in good hatching success but not necessarily in mixed sex ratios. Genetic sex determination occurs in all snakes, most lizards, and a few chelonians.

It is best to allow hatchlings to emerge from the egg on their own, which can take 12 to 48 hours. Until the yolk sac is resorbed (usually within several days), it is best to house them on clean damp paper towels.