



Cold blooded

Objective: Students will discover what it is like to be an ectothermic or cold blooded animal in this fun experiment.

Grades: 1-6

Background:

Being a reptile is no easy task.

Humans are warm blooded. Our body temperature is at a constant temperature of 98.6 degrees. (Unless we are sick and have a fever.)

Reptile body temperatures change according to the temperature of their surroundings. If it is 75 degrees outside, a snake will be 75 degrees inside its body. If it is 105 degrees outside, the reptile will be 105 degrees inside its body. Reptiles have a body temperature range that they must be at in order to survive.

Do you see many reptiles outside during the winter? Reptiles have to hibernate during the winter because it is too cold outside in order for their bodies to work properly. They cannot eat or move around when it is cold outside, so they go in to a deep sleep.

It is hard work for a reptile to keep within the temperature range it likes. They must find a warm place to sit when they are cold, and find a cool place when they are hot. Have you ever stood in the sun when you are cold or move to the shade when you are hot? Different types of reptiles have different temperature ranges they like.

Set-up:

For this experiment you will need a number of thermometers. It is best for the students to split up into groups sharing a thermometer. To make things really fun, you can decorate each thermometer by gluing it to a picture of a reptile from a magazine glued to a note card or other heavy card stock.

About an hour before class find an area that has many different features like rocks, grass, dirt, trees, and bushes. Find the lowest temperature in the area by putting thermometers in the shady areas. Then find areas with the highest temperature found on asphalt, rocks, or other hot surfaces in the sun.

Lay the thermometer down on an object; you do not want air temperatures. Wait at least two minutes before taking a reading.

Next, set up temperature ranges. They should be in five degree increments started at five degrees below your lowest recorded temperature and ending at five degrees above your highest recorded temperature.

Assign temperature ranges to the thermometer reptiles. If there are more temperature ranges than reptiles, space out the temperature ranges you assign.

Activity:

Pass out the reptile thermometers along with its assigned temperature range. Give the children ten minutes or so to find the best place to lay their thermometer reptile so that the thermometer reads within its assigned range. Remember it takes a minute for the thermometer to give a proper reading and it must be actually on something, reptiles cannot hover in the air.

Encourage the children to be creative and experiment where they put the thermometers. You may even have the children write down where they place the thermometer and what its reading is. Some students will not be able to find a spot that will keep the thermometer within their range. Others may have to keep moving their reptile thermometer to stay within their assigned range, just like a real reptile!

Closure:

After ten minutes or whatever time limit you decide, have the children discuss what they did back in the classroom.

How do you think a reptile's day would be different than a humans? What are advantages to being ectothermic? What are the disadvantages?