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Lesson: Cold Blooded Animals – Reptiles (grade 5)

Since we have green anoles as pets in our classroom, we need to be sure we understand what they need and why they need it (for comfort AND survival).

After introduction of these lizards to the classroom, students will go outdoors to affect our precious pets.

Purpose: *Students will learn what it is like to be ectothermic (cold blooded).*

Background Information: *(This will be read and discussed together in class prior to the learning activity).* Did you know that humans are *warm blooded*? Our body temperature is consistently 98.6 degrees (except when we have a fever). Body temperature refers to the *temperature inside the body*.

Reptile body temperatures change. They change with the temperature of their environment; if it's 80 degrees outside, the snake or lizard will have a body temperature of 80 degrees too.

Interestingly, different types of reptiles have a specific range of temperatures that their bodies must be within, in order to survive. Believe it or not, that is hard work! That is why they hibernate in the winter. The temperature is too cold, so their bodies will not work properly. This means they cannot eat or move around. Instead, they go into a deep sleep.

Think about being outside in the summer. What might you do if you get hot while out in the sun during recess? You look for someplace cooler, such as the shade of a tree, right? Well, a reptile,

which is cold blooded, will do the same thing. If its body temperature is too cool, it will find a warm place to rest, and if it is hot, it will look for a cooler place.

Set-Up:

A variety of pictures of various reptiles (enough for pairs of students to have one)

Thermometers (same amount as number of pictures)

Attach the thermometers to the reptile pictures.

Assign temperature ranges to the pictures, by writing this on them. (Have a variety of these).

Determine surface temperature ranges outdoors in the area you will take the students. (It will be best to have an area with a variety of surfaces, such as asphalt, cement, rocks, grass, dirt. Also, look for shady areas.)

Prepare graph paper so that the outdoor SURFACE temperatures are included along the y-axis in increments of either 2 or 5 degrees (depending on the temperature differences that day).

Activity:

1. Pass out a reptile thermometer to each pair of students. Make sure they see and understand the temperature range for that animal.
2. Instruct students to lay their reptile on (reptiles do not hover in the air) at least 5 surfaces and document the surface and the temperature. (Remember to keep thermometer on the surface for at least a minute to get an accurate reading).
3. Determine if that surface at that time of day is within the reptile's temperature range.

4. Encourage the students to consider locations a reptile might be seen and put their thermometers in those types of places.
5. Students need to find at least 5 safe places for their reptile, given the surface temperatures.
6. Put the acceptable locations on the x-axis of the graph and plot the temperatures.

Closure:

After 15 minutes, return to the classroom, or sit in a circle in the school yard, and discuss what was done during this activity.

Ask:

How do you think a reptile's day would be different than a human's?

What are advantages to being ectothermic?

What are the disadvantages?

Extended Activities:

1. With this new understanding of our class pet being cold blooded and needing a specific range of temperature, have students brainstorm ways to achieve that for the pet's health and safety.
2. Work with the students to ensure that the most efficient suggestions (from number 1) are abided by.
3. Have small groups of students research additional information about the needs of the reptile, and present this information to the class in a technical presentation, such as power point. Assign specific topics to the groups: Food, lighting, moisture, nesting, type of environment it is used to.

4. Help students create the best environment for the class pet, given the results of their research.
5. A creative writing assignment, *If you had to spend time out in the natural environment of our class pet, so it could visit its family, what would it be like for you? You would have to eat what it eats, sleep where it sleeps, etc. Explain why you feel this way.*