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# CHAMELEONS IN THE CLASSROOM

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## Introduction

What can you get at a pet shop that will change its color and your science teaching? You can get *Anolis carolinensis*, a unique and interesting reptile that has become a commonplace object of study in many progressive science classrooms. *Anolis carolinensis*, the American chameleon is not a "true" chameleon (1). "True" chameleons exhibit more dramatic color changes, but children are charmed and intrigued by the behavior and color changes exhibited by this American reptile.

## Classroom Care

Generally, the existence of the chameleon in a classroom is usually short-lived because it is handled too much, fed and watered improperly and provided an inadequate habitat.

The first factor can be corrected by looking more and handling less. Since chameleons are lizards and are delicate, children can unintentionally injure or mutilate these creatures. When handled, they should be grasped as shown in Fig. 1 to prevent injury.

Feeding chameleons is not difficult since they eat nearly any kind of live insects. Crickets are often used but mealworms and other arthropods can serve as sources of food. Children are good providers if they are encouraged to collect for food in the right spots, such as damp dark basements or in rotten logs. A local bait dealer can supply insect food during times of unavailability.

In nature, chameleons drink by lapping up drops of dew or rain. In the classroom, vegetation in a terrarium should be sprayed daily to provide humidity and drinking water (4).

The last key element in chameleon culture is habitat. Usually a terrarium (about 12 inches in height) covered with a screen and provided with soil seeded with rye grass or clover promotes the proper condition for chameleon culture. In addition, a small branch for climbing should be included. Adequate light and temperature are



Fig. 1. Handling a chameleon.

also necessary. The optimal temperature is around 80°F Illumination from a 25 watt bulb for at least 6-8 hours per day provides adequate light and helps maintain the correct temperature (3).

When seed is sown for vegetative cover, a thin plant population may result due to poor germination. Experience has shown that a chunk of sod added to the terrarium is most beneficial. Fig. 2 illustrates the size of a sod piece used in terraria construction at Marshalltown.



Fig. 2. Collecting sod.

## Color Changes

Light, temperature and activity are the most significant factors regulating color change in the American chameleon. If undisturbed, an American chameleon, placed on any color background but kept cool, will remain brown regardless of light intensity. If the temperature is raised to 70°F a chameleon will turn green only in dim light. In very bright light a chameleon will remain brown up to a temperature of 85°F. (2).

Bright green is an *activity color* usually displayed when the animal is insecure, endangered or during periods of exertion. Brown, the *repose color*, indicates that the animal is calm regardless of the color of its background (2).

## Observations

Children's expressions and attitudes regarding chameleons are interesting and informative. When chameleons are first brought to school, they are placed in individual terraria and children are assigned to their care. After the reptiles have been in the room a day or two, mealworms are introduced into the terraria to witness predator-prey relationships.

Children are also encouraged to make observation such as:

1. How many toes does a chameleon have on each foot? Do the toes have claws?
2. How would you describe the chameleon's skin? Is the skin dry or wet?
3. Can a chameleon climb? If so how does it use its legs and feet in climbing?
4. How does a chameleon grasp its food?
5. Can a chameleon shed its skin? Does it ever eat its skin?
6. When does a chameleon change its color?
7. Can a chameleon make a sound?
8. Does a chameleon ever use its tail for any purpose?
9. Does a chameleon have an ear? Does it hear well?
10. Does the chameleon have a nose? How does it seem to use its nose?
11. Is an undisturbed chameleon green or brown in the dark?
12. Does the throat of a chameleon ever change color or shape? If so, why?

## Conclusion

The American chameleon provides a focus for many interesting discussions on reptiles, predator-prey relationships, color changes, behavior and habitat requirements. Students are also asked to describe a chameleon to someone who has never seen one before. Tape

recordings of student work sessions not only stimulate learning but also provide input for evaluation. Chameleons, when used properly, not only change color, but more important they change students' attitudes towards science.

### References

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The following units can be obtained free from the U.S. Department of Energy, Technical Information Service, P.O. Box 62, Oak Ridge, Tennessee 37380. Use the Stock number where indicated.

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