

The guides for all three films are excellent. They provide a summary of content, suggestions for use, activities to follow the film (including extension activities) and discussion questions.

I long for an updating of the Buchsbaum series which no longer appears to be available. Until such time, films such as these will be suitable substitutes.

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Amazing animals A-Z: (1) familiar animals, (2) animals strange and new. 1987. National Geographic Society, Washington, D.C. Filmstrips/audio cassettes. 21 min. each. Purchase \$61.95.

Designed for the primary level (pre K-2) these colorful programs in the Look, Listen, Explore series add up to an enjoyable and valuable teaching aid. Animals portrayed are beautifully photographed, and representative animals have been captured on film with great care. Natural surroundings are personified, thereby enhancing a most important aspect of creatures in the wild—survival within a particular environment. Geographic locations are stressed.

Both programs feature an alphabetical (A-Z) approach in depicting each animal. Cassette narrations are pleasant to the ear and comfortably paced, especially for young listeners/viewers. Each tape is designed for manual or automatic operation and can be used with an entire class, small groups, or individually.

Periodically, viewers are given an opportunity to engage in a review via rhyming riddles based on a multiple choice quiz. Most are quite cleverly composed and should appeal to the age group for which this program is intended.

The Teacher's Guides are well designed. Each contains a list of objectives, pre-viewing suggestions and background information. The latter focuses on lesser-known, more unique creatures, as well as suggested related activities.

Pre-school through grade 2 teachers interested in providing their students with basic information about familiar as well as unique animals that inhabit this planet should find this pair of programs quite useful.

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The structure and physiology of the avian egg. 1985. University of California Extension Media Center, Berkeley, CA. Video/16 mm. 15 min. Purchase \$240/\$320, Rental \$33.

This presentation delivers more or less what its title promises in a dry, pedestrian manner. Through examples, avian eggs are shown to vary in number per clutch, color, shape and size, not only among different species, but also often within the same species. Apparent explanations for diversity are given for some eggs, along with speculations for others. It implies that reasons for most diversity are yet to be discovered.

Since the external appearance of the egg occupies the bulk of the video, it would seem that another format, such as 35mm slides with taped narration, could have been used. The eggs are usually shown revolving.

Electron microscopy photographs reveal the complex layers of the egg shell, showing the minute pore canals leading to the surface. Some species possess plugs in the pores for reasons currently unknown. A demonstration illustrating the porosity and strength of the egg is conducted by placing an egg underwater and forcing air into it. The egg is shown to withstand pressure of nearly twice that in an automobile tire before bursting.

It is difficult to understand why so much time is expended on discussing the shell while the chemical composition of the organic components, the yolk and albumen, is ignored. Structures such as the chalaza and yolk membrane are not even mentioned.

The final sequence shows the development of the four extra-embryonic membranes by exposing an approximately four-day-old embryo. An older embryo is also shown, and the membranes are cut away to reveal their relationship to the developing animals. The photography in this section is poor, with heavy glare on the membranes, making it difficult for observation. The video ends with a chick emerging from a hatching egg.

This video fills no void in the body of audio-visual materials for animal development curricula nor does it offer much to enhance student understanding of this difficult and fascinating area of biology. The topic can best be presented by classroom demonstration and hands-on laboratory work.

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