

# “Cycles of Survival”

## Teacher Resource Guide



### Virginia Living Museum’s Natural Science Education Program

- **Grade:** 2 & 3
- **Length of Session:** 45 minutes
- **Number of Students:** 60 maximum
- **Fee:** (includes self guided tour of exhibits)
  - Contract schools: Please call for information
  - Non-contract schools: \$9.75 per student (\$360 minimum)

For more information or to make a reservation, call the Reservations Coordinator at 757-595-9135 Monday-Friday, 9 a.m. - 4:30 p.m. or fill out the on-line request form.

### Description of Class

Where do bats, butterflies and birds go in winter? Why are some insects a tasty meal for an animal while others are left alone? Hibernation, dormancy, migration and mimicry - these and other fascinating animal adaptations and behaviors are explored and explained in this fun and engaging inquiry-based program. Multiple activities, great visuals and live animals help reinforce a range of important SOL concepts.

### Virginia Standards of Learning Correlations

Science: 2.4 2.5 2.7 3.1 3.4 3.8

### Program Objectives

The Student will:

- Explain the differences between mimicry, warning colors and camouflage, and cite examples of animals that use each;
- Match photos / pictures of animals and plants with their seasonal survival adaptation – migration, hibernation or dormancy;
- Compare and contrast short distance migration (salamanders, horseshoe crabs) with long distance migration (hummingbirds, whales).

### Exhibit Tie-ins

The Museum’s indoor and outdoor exhibits provide a wide variety of ways to connect your students to important SOL-correlated learning opportunities. Here are just a few examples:

#### Piedmont & Mountains Gallery **Turtles**

In Virginia, aquatic (water) turtles usually burrow into the bottom of ponds in the late Fall and become dormant until warmer temperatures arrive in the spring. Turtles breathe air with lungs – so how are they able to survive underwater all those months without coming up for air?

#### How Life Survives Discovery Center **Red Spotted Newts**

How do predators know to stay away from juvenile Eastern Newts? What might happen if a predator accidentally eats a juvenile?

#### World of Darkness **American Eel**

American Eels migrate up to 6500 miles and are known to travel over land to avoid dams and other obstacles. Name other animals that migrate and the challenges they might face.

## Vocabulary used in Program

**Hibernation:** a dormant state in which a mammal undergoes a time of reduced activity

**Mimicry:** the resemblance of an animal to something distasteful, inedible, neutral or dangerous.

**Dormancy:** a time of reduced activity and metabolism by an organism.

**Migration:** a round trip journey to and from a given area usually by well-defined routes.

**Camouflage:** the resemblance of an animal to its background.

**Warning colors:** brightly contrasting colors or patterns that call attention to an organism's distastefulness or ability to inflict irritation or pain.

**Adaptation:** Adjustments an organism makes to survive in its ever-changing environment. These adjustments can be in behavior, metabolism, coloration, etc.

## Recommended Websites

Smithsonian Migratory Bird Center

<http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/>

Journey North

[www.learner.org/jnorth](http://www.learner.org/jnorth)

Virginia Department of Game and Inland Fisheries

[www.dgif.virginia.gov](http://www.dgif.virginia.gov)

Migratory Fish Passage Restoration

[www.chesapeakebay.net/fishpassage.aspx?menuitem=14762](http://www.chesapeakebay.net/fishpassage.aspx?menuitem=14762)

U.S. Satellite Laboratory, Inc.

[satellite tracking of migrations]

[www.signalsofpring.net](http://www.signalsofpring.net)

Migratory Bird Fact sheets

[www.fws.gov/birds/mbmfactsheets.html](http://www.fws.gov/birds/mbmfactsheets.html)

Partners in Flight

[www.partnersinflight.org](http://www.partnersinflight.org)

HawkWatch International [raptor migrations]

[www.hawkmigration.org](http://www.hawkmigration.org)

Sample activities on cold weather animals:

[www.wildeducation.org/programs/below\\_zero/activity/belw\\_act.asp](http://www.wildeducation.org/programs/below_zero/activity/belw_act.asp)