### Big Idea(s):
Animals respond to their environment

### SC Academic Standards for Science:

<table>
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<tr>
<th>Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>6-3.4</td>
<td>Explain how environmental stimuli cause physical responses in animals (including shedding, blinking, shivering, sweating, panting, and food gathering).</td>
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<tr>
<td>6-3.5</td>
<td>Illustrate animal behavioral responses (including hibernation, migration, defense, and courtship) to environmental stimuli.</td>
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<td>6-3.6</td>
<td>Summarize how the internal stimuli (including hunger, thirst, and sleep) of animals ensure their survival.</td>
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<td>6-3.7</td>
<td>Compare learned to inherited behaviors in animals.</td>
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### Essential Questions:
- What are different ways animals respond to their environment?
- How can we differentiate between learned and instinctive behaviors?

### Learner Expectations (Summative Assessment):
The learner will:
- Explain how environmental stimuli cause physical responses in animals and construct a cause-and-effect model of the various physical responses that animals have due to environmental stimuli.
- Recall/summarize physical responses of various animals that occur due to environmental stimuli.
- Exemplify ways that the environment affects animals.
- Illustrate and give examples of animal behavioral responses to environmental stimuli including hibernation, migration, defense, and courtship.
- Identify/compare/classify learned to inherited behaviors in animals.
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<tr>
<th>Instructional Strategies:</th>
<th>Formative Assessment:</th>
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<tr>
<td><strong>A. Physical and behavioral responses in animals to environmental stimuli (6-3.4-6.3-5)</strong></td>
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<tr>
<td>1. Discussion- Explain Review, introduce, and discuss how environmental stimuli cause physical responses in animals including shedding, blinking, shivering, sweating, panting, and food gathering and behavioral responses including hibernation, migration, defense, and courtship. Students will view Power Point on standard 6-3.4 and 6-3.5. Teacher notes for 6-3.4 and 6-3.5 can also be used (See animal activity appendix for thumbnails of teacher created Power Point and teacher created notes.)</td>
<td>1. Teacher Observation Students will record information about shedding, blinking, shivering, sweating, panting, and food gathering in their notes or journal.</td>
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2. Video- Engage
   Focus: Visually view the various reactions of animals to environmental stimuli
   Strategy: Students will view several of the United Streaming Videos below (teacher option).
   **United Streaming:**
   - Animal intelligence
   - Animal Adaptations
   - Adapting to Changes in Nature
   - Science of the Sea: Dolphins, Rays, and Other Adaptations
   - Biomes: Adapting to Deserts and Other Ecosystems
   - Animal Instincts
   - Concepts in Nature: Adaptations to Change in Nature

   **National Geographic:** Mimicry and Camouflage
   - Discovery Channel: Animal Instincts
   - Amazing Animals Series - Eyewitness Videos:
     - Scary Animals
     - Animal Disguises
     - Animal Acrobats

3. AIMS Activity- Wondering About Worms-Explore
   Focus: How animals behave to various environmental stimuli
   Strategy: Students will observe an earthworm’s behavior in small groups.

2. In small group, students will discuss the various environmental stimuli and answer teacher generated question. Students will complete video quizzes.

3. Students will record results of exploration in journals.
reaction to moister, touch, and light.

4. Project Wild: Camouflage or Birds and Worms-
   Explore
   Focus: How animals use camouflage for defense
   Strategy: Students will participate in an
   exploration of how camouflage helps animals
   survive.

5. Interactive Websites- Engage
   Focus: Physical and behavioral adaptation in
   animals
   Strategy: Students will interact with the
   following
   websites to further their understanding of how
   physical and behavioral responses of animals
   are
   triggered by environmental stimuli.
   Brain POP:
   Diversity of Life (Animals and plants)
   Ecology and Behavior (Animals or plants)
   Promethean Planet: Animal Adaptation

6. Standards 6-3.4 and 6-3.5 Review Sheet-
   Focus: Review of standards 6-3.4 and 6-3.5.

4. Teacher Observation
   Exit Slip-“Relate this activity as well as
   previous activities to how animals use various
   physical and behavioral responses to survive in
   their environment”

5. Students will record further findings about
   physical and behavioral responses of animals in
   journal. Promethean Planet has quiz on website.

6. Students will complete animal practice sheet for
   standards 6-3.1-6-3.3 to be checked by teacher
   for understanding.
### B. Internal stimuli of animals that ensures their survival. (6-3.6)

1. **Discussion-Explain**
   Review, introduce, and discuss how the internal stimuli (including hunger, thirst, and sleep) of animals ensure their survival. Students will view Power Point on standard 6-3.6. (See animal activity appendix for thumbnails of teacher created Power Point and teacher created notes.)

### C. Learned and inherited behaviors (6-3.7)

1. **Discussion-Explain**
   Review, introduce, and discuss the difference between a learned and inherited behavior. Students will view Power Point on standard 6-3.7. (See animal activity appendix for thumbnails of teacher created Power Point and teacher created notes.)

2. **Standards 6-3.6 and 6-3.7 Review Sheet**
   Focus: Review of standards 6-3.6 and 6-3.7. Strategy: Students will complete the review sheet to check for understanding of concepts.

3. **Teacher Observation**
   Students will record information about internal stimuli in their notes or journal.

4. **Students will complete animal practice sheet for standards 6-3.6 and 6-3.7 to be checked by teacher for understanding.**
5. **Students will record observation/results in their journal.**

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**Animals Gone Wild** - 5 -
(See animal activity appendix.)

3. AIMS Activities-Guiding Goldfish- Explore  
   Focus: Explore learned behaviors  
   Strategy: Students will explore how to teach a goldfish a learned behavior.

4. Crayfish Lesson/Game- Explore  
   (See website in resources and materials)  
   Focus: Observing Crayfish behavior- inherited  
   Strategy: Students will observe crayfish behaviors in their environment.

4. Students will record observations/results in their Journal.

D. Research Project – (6.3-1-6.3.7)

1. Animal Research Project Rubric (See Activity Appendix)

D. Research Project – (6-3.1- 6.3.7)

1. Animal Research Project  
   Focus: Combining standards 6-3.1- 6.3.7 to check for students’ understanding of concepts.  
   Strategy: Students will research a unique animal and be able to answer specific questions on this animal. Students will choose how they will present this information to the class (Options: Power Point, Poster, Booklet, Create a Model along with written paper and/or Research)
E. Classification Skills- (6-2.2 and 6-3.1)
(See Teacher Notes)

1. Classification Study Guide
   Focus: Review Classification (6-2.2 and 6-3.1).
   Strategy: Students will read and discuss study guide in class. (See animal and plant activity appendix for thumbnails of teacher created Power Point and teacher created notes.)

2. Classification Practice
   Focus: Practice Classification
   Strategy: Students will complete the practice sheet to check for understanding of concepts. (See animal and plant activity appendix for thumbnails of teacher created Power Point and teacher created notes.)

3. Students will complete classification review sheet for standards 6-2.2 and 6-3.1 to be checked by teacher for understanding.
### 3. Classification Review
Focus: Review Classification of standards.
Strategy: Students will complete the review sheet to check for understanding of concepts. (See animal and plant activity appendix for thumbnails of teacher created Power Point and teacher created notes.)

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<tr>
<th>Suggested Resources/Materials</th>
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• Tafta, D. (2008). Classification Practice 6-3.4 and 6-3.5. (See animal and plant activity appendix)

• Tafta, D. (2008). Classification Review (See animal and plant activity appendix)

• Tafta, D. (2008). Classification Study Guide (See animal and plant activity appendix)

• Tafta, D. (2008). Standards 6-3.4 and 6-3.5 Review Sheet (See animal activity appendix)

• Tafta, D. (2008). Teacher Created Power Point on standard 6-3.6 and 6-3.7. (See animal activity appendix)


• Tafta, D. (2008). Standards 6-3.6 and 6-3.7 Practice Sheet. (See animal activity appendix)

• Tafta, D. (2008). Standards 6-3.6 and 6-3.7 Study Guide. (See animal activity appendix)

• Tafta, D. (2008). Teacher created Power Point on standard 6-3.4 and 6-3.5. (See animal activity appendix for thumbnail) - view on WPEC Website http://www.wpec.k12.sc.us/

• Tafta, D. (2008). Teacher created notes on standard 6-3.4. (See animal activity appendix)
• United Streaming Videos


*Optional resources and materials:*

**Internet Project**

**Field Trips**
  Riverbanks Zoo
  Greenville Zoo
Botanical Gardens
Alligator Adventure
SC Aquarium
Ripley’s Aquarium
Captains Dick Marina
Roper Mountain Science Center
Barrier Island
Edisto Island
Huntington Beach State Parks
SC State Parks

**Guest Speakers:**
Local DNR
Clemson Extension Agents
Writing Activities: Pour quoi tales of animals

**Teacher Notes:**

*We suggested that you progress through the two animal units in the following order: Vertebrates and Invertebrates and Animals Gone Wild.*

E-We suggest teaching this section after you have finished both the plant and animal units.

***A science end of the year review can be found in the inquiry activity appendix.***