



## Tarsiers and Adaptation

<p><b>Lesson Plan for Grades: 6-8</b></p> <p><b>Length of Lesson: 60 minutes</b></p>
<p><b>Authored by:</b> UT Environmental Science Institute</p> <p><b>Date created:</b></p>
<p><b>Subject area/course:</b></p> <ul style="list-style-type: none"><li>• Middle school biology</li></ul>
<p><b>Materials:</b> The <a href="#">Horned Lizard One Pager</a> that can be found under the resources tab</p>
<p><b>TEKS/SEs: RULE §112.20 8th grade science</b></p> <p>(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:</p> <p>(B) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations</p>
<p><b>Lesson objective(s): Students will be able to</b></p> <ul style="list-style-type: none"><li>• Explain the relationship between an organism's environment and the specific adaptations it has developed for survival</li><li>• Compare and contrast the adaptations of two species with a common ancestor</li><li>• Analyze case studies of species that have undergone natural selection, describing the environmental pressures and resulting adaptation</li></ul>
<p><b>Differentiation strategies to meet diverse learner needs:</b></p> <ul style="list-style-type: none"><li>• The teacher should ask students whether they prefer to read or watch videos to learn about concepts; then have students learn in their preferred learning style. However, the teacher may assign students certain methods to improve their skills. For example, if a student prefers reading, teachers may have them watch a video and take notes to improve their listening skills.</li><li>• ELL students and students with learning disabilities should have multiple forms of instruction including visual and written instruction sheets as well as a verbal instruction and demonstration.</li><li>• The teacher should make sure that all students in the classroom are comfortable with the content in this lesson. If a student is uncomfortable the teacher should allow them to leave the room for a short period of time.</li></ul>
<p><b>ENGAGEMENT (15 minutes)</b></p> <ul style="list-style-type: none"><li>• The teacher will start off the lesson by opening this <a href="#">slideshow</a> and going through slides 2-5 in a class discussion.</li><li>• Next the teacher should go to slide six to lead a small class discussion about traits. During this the teacher should ensure the following ideas are brought up<ul style="list-style-type: none"><li>○ Species develop certain traits to better match their environment</li><li>○ Traits tend to work well in some environments but poorly in others.</li><li>○ Physical traits: Physical features of an organism</li><li>○ Behavioral traits: Behaviors and instincts that of an organism</li></ul></li><li>• Afterwards the teacher should ask students to give some examples of physical and behavioral traits and what those traits accomplish.<ul style="list-style-type: none"><li>○ Example: Fur is a physical trait that protects some animals from extreme temperatures</li><li>○ Some plants turn towards sunlight to increase their rate of photosynthesis</li></ul></li></ul>



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- Lastly the teacher should move to slide seven and play the clip. During this clip students will be directed to observe the tarsiers traits. After this the students should share out some of the traits they noticed and hypothesize as to why the tarsier has those traits.
  - The teacher should write these traits on a board for later in the lesson.

#### EXPLORATION (20 minutes)

- The teacher will begin the exploration activity by splitting the class into an even number of groups while moving to slide 8. Each group is to be given one of the following animals.
- Dogs, Hawks, Gorillas, Lions, Ants, Squirrels, Scorpions, Snakes, Wolves, Bunnies
- The students will then be given 5 minutes to create a list of 5 or more traits that their animal has, and what these traits help the animal accomplish. During this time the students may use the internet to research their animal.
  - Slide 9 shows an example of the activity
- Next each group will be paired with another to compare their animals while the teacher moves to slide 10
- After a few minutes, the teacher should move to slide 11. The groups should then spend some time working together to come to a conclusion on which of their animals is more likely to survive and thrive in the given environment.
- The process should then be repeated twice more using the environments on slides 12 and 13.

#### EXPLANATION ( 10 minutes)

- In [think-pair-share](#) groups, students should spend 5 minutes to discuss the questions on slide 14
- Next the teacher should move to slide 15 and play the 6 minute clip about the adaptations of tarsiers. Afterwards the teacher should move to slide 16 to lead a short class discussion on tarsiers and how they adapted differently than humans.

#### ELABORATION (15 minutes)

- Each student will be handed the [horned lizard one pager](#) to fill out in small groups after watching the video linked on slide 17.
- Afterwards the entire class will participate in the kahoot review linked on slide 18.
- Lastly the students will answer the questions on slide 19 as an exit ticket.

#### EVALUATION (throughout entire lesson)

- Students will be evaluated for understanding through a one pager on horned lizards as well as an exit ticket.
- They will also be evaluated for participation in the lesson

#### SOURCES AND RESOURCES

- List any sources you referenced to create this lesson plan, and if relevant, include the full web addresses for them.
- **Dr Chris Kirk Hot Science – Cool Talks #127, “Tarsiers – Tiny Terrors of the Tropics!**



The University of Texas at Austin  
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<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Student did not participate in class discussions, small group discussions or group activities	Student participated in class discussions, small group discussions or group activities	N/A	N/A
Student did not complete the horned lizard one pager	Student did not connect the adaptation of the horned lizard to its environment	Student adequately explained how horned lizards adapted to their environment	Students adequately explained how horned lizards adapted to their environment. Student adequately explained the impact of this adaption on the horned lizards survival and
Student did not complete the exit ticket.	Student did not adequately compare and contrast tarsiers to humans and the student did not adequately explain how evolution leads to the development of new species.	Student did not adequately compare and contrast tarsiers to humans or the student did not adequately explain how evolution leads to the development of new species.	Student adequately compared and contrasted tarsiers to humans and the student adequately explained how evolution leads to the development of new species.