

### **Tortoise Movie (Lesson Plan)**

\*Please note: This lesson plan can be completed in one to two days depending on how in-depth you want the students projects to be.

#### **Grade Level**

4. Students in grade 3, 4 should have at least a rudimentary understanding of how living organisms depend on one another and their environment for survival. This lesson plan reemphasizes prior information – and builds upon prior knowledge – by giving students an opportunity to make observations, draw conclusions based on data and research, and organize their ideas in a meaningful way and become knowledgeable about an endangered species.

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#### **Science Concept**

This lesson is aimed at helping students understand that animals’ environments have a direct effect on the stability and longevity of a species. Student will be provided the opportunity to learn about the Desert Tortoise’s habitats, needs, environments and advocacy to re-establish an endangered species into the wild.

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#### **Relationship to California Science Content Standards**

3. Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:

- b. *Students know* that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

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#### **Objective**

Students will learn about the habitats of the Desert Tortoise, its struggle to survive in its natural environment and the efforts that humans make to ensure a safe environment for it.

Students will create a brochure based upon watching the movie “The Heat is On: Desert Tortoises and Survival” and offer at least five points about the importance of preserving tortoise habitats, the threats facing tortoises and offer suggestions on how the community can help re-establish the tortoise population.

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#### **Conceptual Background**

Desert tortoises have lived across the southwest landscape of the United States for more than thousands of years. Their adaptation to its extreme harsh environment is amazing with the ability of surviving ground temperatures greater than 130 degrees Fahrenheit. Desert Tortoises are even able to live a year, or even two, without water.

But now, the desert tortoise is in danger of extinction. In the 1920s, there were hundreds

of desert tortoises per square mile in parts of the Mojave Desert. Now, in those same areas there may be fewer than a dozen per square mile.

Tortoise extinction would have a ripple effect across the desert. As tortoise numbers drop so too do the numbers of underground burrows that they dig. A wide host of animals depend upon these burrows from shelter from extreme summer heat and the cold of winter. Even in a protected Critical Habitat area like the Red Cliffs Desert Reserve, in southern Utah, the tortoise population dropped nearly 50% since 2000.

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**Materials**

1. Poster board or tri-folded 11x17 paper
2. Drawing materials
3. Adhesive supplies
4. Scissors
5. **The Heat is On: Desert Tortoises and Survival** movie created by the United States Geological Survey (USGS) Located in the Multimedia Resources Section of the SERC Inquiry Binder

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**Engage:**

Introduce students to Desert Tortoise’s plight by reading the books *Desert Tortoises* by Bloomquist and *The last tortoise: a tale of extinction in our lifetime* by Stanford (annotated information about these books can be found in the Reading List and Resources Section in your SERC binder). Students will begin to utilize their analytical and critical thinking processes about-endangered species and environments at this point. Have students fill out the Brainstorm Worksheet. Follow this activity by bringing the Desert or Texas Tortoise in for display. Give students the opportunity throughout the day to observe the tortoise. Watch the video “The Heat is On” from the USGS about tortoises (This is in your Multimedia Resource Section in your SERC binder) and fill out another Brainstorm Worksheet. The video is broken into 4 parts to allow for conversation and discussion in between segments.

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**Explore:**

Discuss the video with the students and have them share their concerns, questions or information they learned from the books, video, or even having the tortoises visit the class.

Break students into groups (2-3 students). The students will have the opportunity to future their Brainstorm chart through pair share activities. Instruct the students that they will be creating a brochure or posture that tells people about the desert tortoise. Distribute the Rubric and Criteria Worksheet so students know the basic requirements and grading expectations of the project. As students are working, circulate the room asking questions and guiding inquiry.

Ask leading questions such as:

*What are some future potential threats that tortoises are facing?*

*How do you think scientist and conservationists control the ravens that prey on baby tortoises? Would you do anything different or the same? Why?*

*Is it possible to relocate tortoises to another area? Is it a good idea and what do the scientists think of this idea?*

*How would you fix this problem?*

Offer students additional Brainstorm Worksheets as they work in groups to come up with their brochure or poster.

Students may begin creating their poster after they present their idea or final Brainstorm Worksheet to you. Allow students to work on this project on day two. When students are finished with their project they will present it to the class.

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**Explain:** After the class finishes their presentations, have the students tell you some of cool things other people included in their projects. Discuss with the students ideas of conservation and reestablishing tortoise population efforts. *Ask* them to think critically about each one and offer a reason why or why not a conservation effort could or could not work.

*Ask* students some leading questions, if necessary:

*Why did some students have different results?*

*Why do you think that will or will not work?*

*Do you have another suggestion to build onto that idea?*

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**Extend:** Review the environment that tortoises live in. Have student create an artificial habitat that would be able to protect and allow tortoises to thrive. Students can also research geographical regions in the world to determine if there is another environment suitable for the Desert Tortoise.

**Evaluative Ideas:**

**Summative** – Students are awarded points based on the ability to include all areas of the criteria and rubric. Each section on the rubric will be worth 4 points totaling 16 points for the poster or brochure. Students will receive pass or fail for completing at least one Brainstorm Worksheet with a collective idea or concept.

**Formative** – Note students’ level of participation throughout the lesson and project. For example, students who intently observe the tortoise, engage in lesson-related conversations with peers, work well with group members, fill out

brainstorm worksheets and present their project can receive full credit for this part of the evaluation.

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### **Differentiation Plans:**

**Behavioral for Student A** – Simply having a live animal in the classroom may be one way to engage a student who is unmotivated or has trouble staying on task. Prepare further by considering the problem behavior when planning out your lesson and creating a back-up plan. For example, ask the student to be the facilitator of his or her group and that everyone has to have each section finished in order to move on to the net task. They may also be in charge of making sure each group has their materials.

**Cognitive for Student B** – Offer extra scaffolding and time for a student with a learning disability. For example, give the student more time with the tortoise. Allow the student to review the movie as many times as necessary. The movie can also be accessed online at the USGS web site ([http://gallery.usgs.gov/video\\_tags/mojave/list/\\_/1](http://gallery.usgs.gov/video_tags/mojave/list/_/1) ). Ask more leading questions as the student moves through phases of the lesson. During the project time, place the student in a group with peers of mixed abilities to encourage collaboration while helping prevent the student from feeling like out of place.

**Cognitive for Student C** – Encourage a gifted student to help you learn more about natural and human environmental impacts hindering tortoises. For example: During the **Explain** portion of the lesson, a student raises his hand and asks a question, “What is the purpose of saving these animals, they have no purpose?” or “Why don’t they just relocate them?” but you don’t know the answer. Ask a gifted student to use the Internet on a class computer to look up the answer for you. Prepare in advance by opening tabs on a computer for at least three different valuable wildlife websites. Below, I have listed resources from the USGS, a government site that is extremely reliable.

<http://www.werc.usgs.gov/Project.aspx?ProjectID=86>  
<http://www.werc.usgs.gov/outreach.aspx?recordid=82>  
<http://www.werc.usgs.gov/ResearchTopicPage.aspx?id=4>  
<http://www.werc.usgs.gov/ResearchTopicPage.aspx?id=16>

Offer the student the opportunity to work on the EXTEND activity.

**Affective for Student D** - For a shy student who fears raising his hands in class, offer an alternative formative assessment by listening in on his contribution to group discussions. Also, approach his table during journaling/class discussion time to ask him or her some one-on-one open-ended questions about their observations. If needed, place extra weight on summative evaluation scores.

**Language Demands for Students E, F, G** – Give ELLs a front-and-center view of the tortoise and materials. Model and demonstrate constantly, using visuals and gestures.

While explaining the brainstorm sheet, show an example of how it can be completed. Allow students to use L1 during group discussions, this promotes cognitive learning and development and clarification. Build on prior knowledge and make and refer to a visual word wall that includes cognates. Check for understanding before and after students go into groups. Ask questions that require a response of phrases and short sentences. Offer alternative answers and questions. Evaluate ELLs who are somewhat proficient in oral English but struggle with written English by having a verbal discussion.

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**Directions or Special Instructions; Safety Concerns, etc.**

- While students are permitted to closely observe the Tortoise, only the teacher is permitted to touch the animal.