

## **Lesson 7: Turtles & Tortoises Predator and Prey Group Project**

### **Science Concept:**

This is an open project based lesson on the concept of the food web and the trophic levels that coincide with it. Students will work in groups to discover and do a project on one type of turtle/ tortoise and their predator and prey relationship. Once students have designed their turtle/ tortoise project they will then engage with other groups in order to learn about the different eating habits, and predator prey relationships that other turtles and tortoises have. The big idea is that at the end of the activity students will have developed knowledge about one specific turtles place in the food web as well as made connections about a variety of other turtles. Students will be asked to observe others works at the end of the class and then make a connection or draw a conclusion based on the projects.

### **Level of Inquiry:**

Open

### **California Content Standard:**

6.5 b. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.

**Lesson Objective(s):** Students will graphically represent their understanding of the concept of a turtle/ tortoises eating habits and predator prey relationship in groups using one specific turtle/ tortoise (The Desert Tortoise, The Texas Tortoise, The Ornate Box Turtle, and The Russian Tortoise).

### **Conceptual Background:**

The food web is a concept in 6th grade ecology that is brought up in multiple standards. In this lesson student will explore the food web by focusing on various turtles and tortoises functions in the web (The Desert Tortoise, The Texas Tortoise, The Ornate Box Turtle, and The Russian Tortoise). The SERC lab has all of these turtles and tortoises available for visits to your classroom which may serve as a great way to engage students and get them excited about learning about turtles/ tortoises. Remember that this is the highest level of inquiry (Open) and so you are giving students the resources they need and letting them discover everything on their own. You will present students with the topic and have them come to a conclusion on their own.

### **Lesson Implementation Plan:**

#### **Engage:**

Introduce one of SERC's Turtles/ Tortoises to the class.

Have students ask questions about the turtles and write down the questions on the board.

Once students have asked the questions "What do they eat?" and "What eats them?" "What habitat do they live in?". Take these questions and ones along the same line and underline them.

Tell the class that they will be working with their table groups to discover the answers to these

questions. Let them know that they need to include a graphic representation of the predator and prey relationships that these turtles have. Let them know it is up to them how they represent it but that it must be done visually. Tell them they need to strive to answer the underlined questions on the board in the process and that the rest is up to them. Each group will pick from a hat what type of turtle they have to explore and then you will be acting as a passive observer for the rest of the project.

### **Explore:**

Students will have access to the library, computers, textbooks, supplies like poster board, markers, pens, pencils, scissors etc. You may also supply a list of websites that may be helpful for the students but this is optional. Note that you should have a strict technology agreement in place to keep students safe when on the internet. Do not hesitate to enforce disciplinary action if students are off task repeatedly during the class. Some students may need more structure and so have a backup plan in place for those students.

### **Explain:**

Students will decide as a group how they are going to represent the predator and prey relationships of their turtle. Some may draw a food web, while others may draw a food chain, or a pyramid or something that does not fit in any of these boxes. Have students make a list of project presentation ideas. Some students may want to make a film, while others may want to make a traditional poster, or a powerpoint presentation, or a wiki page, or a play. The only constraint is that it must be visible and contain a graphic representation answering the key questions and illustrating the concepts.

Students will need to show evidence of planning and meet with the teacher periodically to show planning and execution progress. Students will be responsible for designating responsibilities within the group. (the teacher can provide extra guidance/ assistance if asked or absolutely necessary.)

### **Elaborate:**

Before students present their projects write these questions on the board, “What do the other groups have in common with your group? How are these turtles/ tortoises similar or different?”. Students will present their projects to the class. As each group presents the other class members will take notes on each project and provide constructive criticism. At the end of class students will write down what connections they came up with while watching the other groups present. Students will have the opportunity to share these connections and will be expected to turn them in at the end of class.

### **Evaluate:**

#### **Formative Assessment/s**

A. Students evidence of planning and participation in their group will serve as formative assessment.

**Summative Assessment**

- A. Students final projects and presentations will serve as a summative assessment.
- B. Students final written connections will serve as a summative assessment.

**Differentiation Plans:**

Behavioral: Student will work with peers who he/she considers a friend to ensure peer modeling.

**Cognitive (below proficient):**

Students will be placed with at least one peer at a cognitive level that is one step higher than him/her to ensure peer assistance throughout the lesson.

**Cognitive (highly proficient):**

Student will be placed with a pair who is on a cognitive level lower than him/her in order to provide peer assistance if required. Due to the limited constraints of the lesson the student can achieve to their highest potential. If this student finishes early provide them with the suggested reading book noted at the bottom of the lesson plan. This book is available at the San Jose's MLK Public Library in the children's section downstairs.

**Language Demands:**

Students will be placed with a peer who is familiar with his/her L1 to ensure peer assistance throughout the lesson. This lesson is a writing optional activity in that ELL students can opt to draw pictures explaining concepts rather than write words. These students will be allowed to confer with a partner for the final response.

**List of Materials:**

Access to Cameras (optional)  
Access to Computers (optional)  
Chart Paper  
Pencils, Pens, Markers  
Glue. Construction Paper.Scissors  
Text book  
Library access

**NOTE:** Student can use the fact sheets on the turtles provided at the beginning of this curriculum binder.

**Further Reading:**

*Turtle, Turtle, Watch Out!*

Written by April Pulley Sayre

Illustrated by Annie Patterson

ISBN 978-1-58089-149-3

This book is available through the San Jose Public Library System

