

## **FINDING THE AGE OF A TURTLE**

### **AN ELEMENTARY SCIENCE LESSON PLAN DESIGNED FOR GROUP INQUIRY BASES ON THE 5E INQUIRY MODEL**

**GRADE LEVEL: 1<sup>st</sup> grade**

**SCIENCE CONCEPT:** This lesson is created to get students exploring the ways in which we discover the age of an animal, in this case using the shell of a turtle.

#### **RELATIONSHIP TO CALIFORNIA SCIENCE CONTENT STANDARDS:**

1<sup>st</sup> Grade Life Sciences:

2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:
  - a. Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.

#### **LEARNING OBJECTIVES:**

1. Students will learn about the turtle's shell and make observations about whether it can tell how old the turtle is.

#### **EVALUATION IDEAS:**

1. Formative: Ask students questions as they move around the centers, and observe their explorations.
2. Summative: Completed "How Old is the Turtle?" Worksheet

#### **CONCEPTUAL BACKGROUND:**

It can be hard to determine an animal's age, but there are some ways that can often give good estimates. In the case of a hard-shelled turtle, one can make a reasonable estimate of the age of the turtle simply by counting the number of rings on the scute on the turtle shell. While this is not always accurate, this method is far more accurate than if they were simply looking at the size of the turtle!

#### **LESSON IMPLEMENTATION PLAN:**

This lesson is designed as a structured inquiry lesson using structured centers for the students to explore how it may be possible to determine the age of a turtle.

#### **ENGAGE**

Tell students that the SERC turtle you've borrowed wants to figure out how old he is. Have students brainstorm ways that they think they might be able to find out.

## **EXPLORE**

Students will be trying to answer the question: “How can I figure out how old a turtle is?” They will have several centers where they will try to figure it out, and at the end, will decide which method is the best. The centers should be structured so that no one goes to the SERC turtle on the first rotation – this center needs to come after the “How Old is the Turtle?” center.

### **CENTER 1: Turtle Color**

Students will decide whether a turtle’s color can determine its age by using the “Does a Turtle’s Color Determine Its Age?” worksheet.

### **CENTER 2: Turtle Rings**

Students will learn to count the rings on a turtles shell (on the scutes) to determine the turtle’s approximate age using the “How Old is the Turtle?” worksheet.

### **CENTER 3: Turtle Literacy**

In this center, students will take the time to read and explore from a selection books about turtles. (*See the Book References page for suggested titles.*)

### **CENTER 4: Live Turtle**

Students can try to use any of the strategies that they explored to determine the SERC turtle’s age. They should try to count the rings on the shell!

## **EXPLAIN**

Have students share their “How Old is the Turtle?” worksheet and answers with a partner. Did they get the same answer?

## **ELABORATE**

As a class, discuss which method worked best for determining how old the turtle is. Is there a method that works perfectly? Can they come up with anything better?

Let the students know how old the SERC turtle actually is. Where their answers correct?

## **EVALUATE**

(a) Summative – Completed “How Old is the Turtle?” Worksheet

(b) Formative – Ask students questions as they move around the centers, and observe their explorations.

## **DIFFERENTIATION PLANS:**

Behavioral for Student A: Allow the student to be the teacher’s assistant at the board or projector.

Cognitive for Student B: Make the lesson into short, concise parts for the student, rather than one long assignment.

Cognitive for Student C: Provide the student with extra time to complete each step of the assignment.

Affective for Student D: Make sure to put the turtle and materials in a place that all students can access, like on a table.

Language Demands for Students E, F, G

- Use a lot of visual representations and realia.
- Allow the student to use pictures instead of words when completing their assignments.
- Have a word wall of important vocabulary, or allow the student to use a word bank during the lesson.

**LIST OF MATERIALS:**

- One of the turtles from SERC (NOT a tortoise!)
- One ‘How Old is the Turtle?’ worksheet per student
- One Turtle Size worksheet per student
- One Turtle Color worksheet per student

**DIRECTIONS OR SPECIAL INSTRUCTION; SAFETY CONCERS, ETC.**

Find out how old the SERC turtle you are checking out is before you do this lesson.

If one of the SERC turtles is not available to check out for your classroom, then just use the worksheet along with the turtle photograph (copy on photograph per group.)

This lesson should be done after students have completed the lesson on the anatomy of a turtle shell.

Students are allowed to touch the animal, but not in its face. Students are not allowed to feed the animal. Students should be taught proper actions around the animal before doing this lesson.

It is important to go over procedures for safe handling and care of live reptiles with your students. Also, be sure to have students wash their hands with antibacterial soap or wipe them with hygienic wipes. Point out the importance of doing this: to avoid infection from the turtles and to avoid the possibility of spreading infection from one turtle to another.