

## **EXPLORING TURTLES AND TORTOISES**

### **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 as an open inquiry for 1<sup>st</sup> grade using open centers to observe and explore what turtles and tortoises look and feel like, including observing the live animals.

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

1<sup>st</sup> Grade Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

4.b: Record observations and data with pictures, numbers, or written statements.

#### **LEARNING OBJECTIVES:**

1. Students will observe and record their observations about what turtles and tortoises look and feel like.

#### **EVALUATION IDEAS:**

1. Formative: Ask students questions as they move around the centers, and observe their explorations.
2. Summative: After finishing the lesson, students will draw a picture of either a turtle or a tortoise, and include 3 sentences describing the animal. (or “What I Learned about Turtles and Tortoises Today” page)

#### **CONCEPTUAL BACKGROUND:**

When students think of turtles and tortoises, they often think of an animal that is green, and that carries his house on his back. But there is more to a turtle than that. These animals aren't simply green; they can be green, or brown, with yellow, and any manner of color combinations in between. What exactly does a turtle or tortoise look like? And what does it feel like? Students will be exploring just those types of questions in this lesson.

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

This lesson is designed as an open inquiry lesson using 5 centers. Students will be allowed to explore the centers at their own discretion, with only a limit to the number of students at each center (5-6) or the time spent with the animals (10 minutes, so all students get the chance to be at the animal center.)

## **ENGAGE**

Read students a captivating book about turtles or tortoises. A good choice is *Turtle's Day*, by Ron Hirschi. (For more information, or other recommended books, see the book reference page.) This book is a picture walk through a day in the life of an eastern box turtle.

## **EXPLORE**

Let students know that they will be learning about turtles and tortoises during this lesson, and they will be allowed free choice as to which centers they go to. The only restrictions are on the number of students at each center (5-6) and the time that they can spend at the center with each animal (10 minutes) so that each student gets the chance to visit and explore the animal.

### **CENTER 1: Live Turtle Exploration**

This center is where the students observe the live turtle from SERC. They will fill out the part of the worksheet about the turtle observation at this center.

### **CENTER 2: Live Tortoise Exploration**

This center is where the students observe the live tortoise from SERC. They will fill out the part of the worksheet about the tortoise observation at this center.

### **CENTER 3: What does it feel like?**

In this center, students will be asked to explore what different materials feel like, and make observations and predictions about what is closest to what turtles and tortoises actually feel like. Materials at this center include: fabric piece, leather piece, rock piece, and sandpaper piece.

### **CENTER 4: Mystery Picture**

In this center, students will use their basic math facts to color a mystery picture. Can they guess what it might be? (A turtle!)

### **CENTER 5: Turtle and Tortoise Books**

This center needs at least 6 books about turtles. (Though if there are less, students can share.) Students will read a book or books about turtles or tortoises individually or with a partner.

## **EXPLAIN**

After students have completed the centers, they will go back to their seats and create a "What I Learned about Turtles and Tortoises Today" page: they will draw picture of a turtle or a tortoise, and write at least 3 sentences about what they learned.

## **ELABORATE**

Have students share their "What I Learned about Turtles and Tortoises Today" page with a partner.

As a class, go over some of the things the students might have explored during the lesson (what color a turtle/tortoise is, what it feels like.) Have the students share their observations with the class.

## **EVALUATE**

- (a) Summative – the students picture and 3 sentences, or “What I Learned about Turtles and Tortoises Today” page
- (b) Formative – Ask students questions as they move around the centers, and observe their explorations.

## **DIFFERENTIATION PLANS:**

Behavioral for Student A: Give the student specific instructions about how and when to move about the centers rather than allowing them free choice.

Cognitive for Student B: Allow the student to provide oral answers rather than written.

Cognitive for Student C: Provide the student with a reduced assignment: require them to complete only a certain number of centers rather than all.

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

Language Demands for Students E, F, G:

- Have a word bank for students to choose from when working in each center.
- Have some of the books about turtles and tortoises in copies in the student’s primary language(s).
- Allow the student to use pictures instead of words when completing their assignments.

## **LIST OF MATERIALS:**

- A turtle and a tortoise from SERC
- One turtle/tortoise observation worksheet per student
- One Mystery Picture for each student
- At least 3 books about turtles or tortoises (*see book recommendation list*)
- Objects for the “What does it feel like?” center: sandpaper, leather, cloth, stone, etc.

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

If both a turtle and a tortoise are not available from SERC, feel free to use only one of the animals for this lesson, and simply omit the worksheet from the other animal’s center.

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.