

## **Pacific Chorus Frog: Survival in the Wild**

### **An Elementary Science Lesson Plan Designed for Group Inquiry Based on the 5E Inquiry Model**

**Grade Level:** This particular is a level two inquiry and is designed for use in a first-grade science classroom. First-grade students will be studying the environment of the Pacific Chorus Frog and the adaptations that help them thrive in different environments.

**Science Concept:** This lesson is aimed at helping students understand the concept of external adaptations and camouflage that certain animals use in order to protect themselves from predators in the wild. This lesson also provides students with the opportunity to practice making predictions and elaborating on data they collect in an interactive activity.

**Relationship to California Science Content Standards:** (1.2.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 Objective:** Students will write a five-sentence description about the Pacific Chorus Frog's habitat and complete a supplementary illustration.

**Lesson Plan Implementation:** The Pacific Chorus Frog must be in the classroom during this lesson plan. Prior to the Engage step, set up four different clear containers around the room, each with one color of construction paper shreds (red, yellow, green, and blue). In each container, place five to six pipe cleaners, cut into three to four pieces each (for a total of 15-24 pieces per color) for each of the following colors: red, green, blue, and yellow.

Students will work in small groups, in the large class and individually on assignments and in class tasks. The Pacific Chorus Tree Frog will be in the classroom.

#### **Materials:**

- Pacific Chorus Frog 1.1 (one per student) (attached)
- Pacific Chorus Frog 1.2 (one per student) (attached)
- White construction paper (one per student)
- 12-16 pipe cleaners in each of the following colors: red, yellow, green, blue
- Four clear containers (large size)
- Paper shreds in the following colors (enough to fill the large clear bins): red, yellow, green, blue
- SERC Animal: Lolli
- Clock (or timer)

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**Engage:** Ask your students to close their eyes and imagine the following scenario:

Today is your day to bring home the most delicious and nutritious food for your family. You are going on your very first hunting trip, searching for your prey in the low brush of the forests. You have four different spots that you have good luck with finding food in, but you have noticed that at some places, you find more of one kind of food than the others. You enjoy eating green worms, red worms, blue worms and yellow worms the most. Your family wants you to figure out which areas are the best for finding a specific kind of worm and which areas are the worst for finding a specific kind of worm.

After you have shared this scenario with your students, pass out the Habitat Station worksheet (Pacific Chorus Frog 1.1). Explain to students that by only looking at the station (stress the looking aspect of the activity), they must predict at which station they will find the most of each color worm. Tell students to fill out the Prediction area of the worksheet only for each of the four stations. Afterwards, allow students to discuss their predictions in groups of five or six students.

Next, break students up into four groups and assign each group a “starting station.” Write on the whiteboard or a large piece of paper the rotation of groups based on their group number. Use station colors (red, blue, green, yellow) to indicate which station students will move to.

**Explore:** At each station, give students ten seconds to reach into the clear container and grab as many pipe cleaners as possible. Once every student has had a turn, allow students time to separate their pipe cleaners into appropriate colors and count how many they have picked out of each color. Have them write these numbers in the appropriate columns on the Habitat Station worksheet (Pacific Chorus Frog 1.1). If students are having issues with this, you can write out an example on the board and go through the first set with them. After each group has visited all four stations, have students go over their results within their groups and evaluate whether or not their predictions matched their results.

**Explain:** After students have discussed their results in their small groups, call attention to the class. Then, encourage students to share their findings with their classmates. The result of the activity should be that pipe cleaners of the same color construction paper were found the least in their specific environment. Make sure you ask students to explain, in their own words, why they think they recorded those results. Allow students time between responses to illicit more in-depth responses.

Once students have explored their ideas thoroughly, review the terms predator, prey, adaptation, and camouflage with your students. Go over the concept of how animals adapt to their environments to protect themselves from predators or even to allow themselves to catch their prey more easily. Explain the connection between this concept and the skin of the Pacific Chorus Frog, which changes to match the hues of its environment. Similarly, it is colored to match the climate colors associated with its areas (cool colors for wet environments, browns for more wooded areas).

**Elaborate:** Once students seem to have an understanding of the above topics, have students observe the Pacific Chorus Frog in their same groups of five or six. Pass out the Observations worksheet (Pacific Chorus Frog 1.2), and explain to students that they must fill out this worksheet with their observations of Lolli. Then, using these observations and their worksheet, tell students that they will write a five-sentence description of where this Pacific Chorus Frog would live and why it would live there. Make sure you stress the number of sentences that need to be written. Students will then draw a supplementary illustration on a piece of white construction paper (which should be given to them after their description is written). It may be helpful to pass around or feature images of the Pacific Chorus Frog at this time for students to reference.

**Evaluate:**

- (a) Formative: Gauge student understanding based on participation in class and verbal responses offered in in-class discussion. Group participation will be monitored in the Worm gathering activity.
- (b) Summative: Gauge student understanding of adaptations and the external features animals use to blend into their environments based on student predictions and explanations.
- (c) Formal: Collect and review Pacific Chorus Frog 1.1 and 1.2 as well as student descriptions and illustrations.

**Differentiation Plans:**

- Behavioral: If students have difficulty completing rotation activities, conduct the experiment as a class and elect students to be grabbers for each environment. Your class as a whole can then record the information together (while still working in their small groups to explain and predict what will happen).
- English Language Learners: English Language Learners or those experiencing difficulties with the English language can draw the pipe cleaners in the boxes as opposed to writing down results. Additionally, these students may orally share their descriptions with a teacher or teacher's aide, who could then record them for the student.