

SWAN SAFETY: READING WEATHER MAPS

Expected Learning Objectives

It is extremely important that all swan caretakers and protectors be aware of daily weather changes and predictions, be familiar with the effects of weather on swan preservation, and know the procedures to follow when weather threatens the well being of the swans. Students must be able to read the keys/legends and interpret the symbolism on weather map markings, using newspapers, computers, and television reports. They must be able to coordinate 1) information derived from reading weather maps and reports with 2) their trained and practiced observations in the outdoor classroom, then 3) to design plans of action to protect the swans and the swan habitats in specific circumstances, e.g., before a hurricane when swans must be transported to a non-threatening venue, or during an alligator siege when swans must be kept indoors under the care of professional swan keepers or protectors. In this and related lessons, the students proactively experience the critical interrelationships between and among reading, language arts, creative arts, science, math, and meteorology.

Materials

Students must have available to them newspapers, the internet, televised/radio weather reports, writing utensils, paper, clipboards, chart paper, chart racks/easels.

Learning Strategies (K-3)

The students and teachers will journey lakeside to the outdoor classroom. They will observe the nature of sky, clouds, temperature, wind, and water, then make a weather prediction for the day. Comparing their predictions, based upon their observations, to the information on the newspaper/computer/television weather maps, they will decide if the evidence is foreshadowing a safe day for the swans, or, a threatening day, in which case a plan must be made for swan protection.

Related Activities

1. The students will record the temperature, wind patterns, cloud patterns, water conditions, and nature of the sky on their weather calendars. They will use pictorial symbols to record this information, with word and numerical symbols written beneath. Depending on their levels of emergent or early literacy, they may need the guidance of their teachers. In the case of needed guidance, the students and teacher can create a word wall of words, phrases, and symbols, which they will review, to use as a basic reference.
2. The students will discuss what must be done to protect the swans if weather becomes imminently dangerous. This may range from increased vigilance from the staff, a change of venue for the swans, or movement indoors.

3. The students will propose a plan of action to execute in the event of an emergency. They will either write, or dictate to the teacher, depending on their levels of literacy, the steps of this plan on a large wall chart. The chart will be read, analyzed, and critiqued for possible editorial revisions.

Assessment

The teachers will evaluate the accuracy of the students' weather calendars and the creative and critical thinking levels of their solutions to swan protection in the event of threatening weather. The teachers will guide the students in their discussion and revision of their emergency plans, but will assess their problem solving and conflict resolving skills throughout the discussion. The caretakers of swans must be efficient and innovative problem solvers in order to care for and preserve these magnificent creatures.

Learning Strategies (4-8)

Determining a comfortable place to sit in the outdoor classroom, the students will be divided into groups of four each and move to one of four segments of that area.. Each group will be given a newspaper. The teacher will demonstrate the procedures for reading the weather map in the Newspaper. The students will study the weather map keys and legends and analyze symbolism of the markings on the weather map in the newspaper. All groups will report orally on their findings.

Related Activities

1. The students will write a report as a group describing the use of the weather map key/legends and symbolisms. They will include their rationale of the importance of being aware of the weather conditions surrounding the swan habitats.
2. The students will later study and analyze the weather reports presented by local and national radio and television stations. They will discuss, arrive at a consensus in each group, then write a prediction for adjusting behavior as a result of their interpretations. One person in each group will assume the role of television weather channel meteorologist and present the group's finding to the entire class.

Assessment

The teachers will use checklists to assess the students' oral and written communication skills, the accuracy of their interpretations of the natural environmental weather signs and media weather reports, as well as the logic of the rationales of their predictions.

Learning Strategies (9-12)

The students will create a Daily Weather Newsletter. On each day they will design and include a weather map, its related legend of keys and symbols, and short articles narrating, e.g., the history of weather in the area, unusual weather events, precautions to be taken in the event that severe storms or draught threaten the safety of the swans, and strategies to secure the swans' habitats so that they are consistently free from harm. The Daily Weather Newsletters will be printed and distributed throughout the school system. In addition, the students will prepare daily reports for the school system's closed television network. This will involve writing, editing, revising, and polishing the report, as well as blocking, practicing, and critiquing the final product for presentation. The weather report can be part of the students' daily writing and presentation of the televised school news. These reports can be of any length, but are generally of 10-15 minutes duration. The students may work as a whole group, or be divided into groups of three or four.

Related Activities

1. The students will conduct internet research on the effects of the weather in neighboring states/regions on the weather in the outdoor classroom. They will study and write in chart form all historical weather trends and patterns, noting dates and interims. They will compare this information to that printed in the newspaper, presented on the weather channel, or carefully observed, using graphs and matrices.
2. The students will conduct internet and on-site research to determine the time required to prepare the swans and their habitats for possible wind/hail storms, tornadoes, and/or hurricanes. They will write a 'Plan of Action' to be used immediately and a Weather Watch Book summarizing their research for use by future teams responsible for swan care and preservation.

Assessment

The teachers will assess the accuracy and creativity of the content of the Daily Weather Newsletters, the televised school reports, the internet research, the graphs, the Plan of Action and the Weather Watch Book. The teachers will note their observations and evaluations on a detailed checklist.