



√ Pre-Visit

√ Field Site

Activity: Grebe Breeding Behaviors, part 2

Oregon Content Standard: Scientific Inquiry: COLLECTING AND PRESENTING DATA
Conduct procedures to collect, organize, and display scientific data.

National Science Standard: Content Standard A - Abilities necessary to do scientific inquiry: use appropriate tools and techniques to gather, analyze, and interpret data.

Background Information: The Western and Clark's Grebes are two species of waterbird that breed in the Klamath Basin. See the grebe fact card on page 2 for a full profile on the species' brooding behavior.

Learner Objective: The student will demonstrate an understanding of grebe chick rearing, formulate questions about Western and Clark's grebe mating behavior, take detailed field observations of grebe behavior, and summarize these observational data.

Materials Needed:

- grebe brood rearing information sheet, page 2
- binoculars and spotting scope
- field journals
- clip boards with string
- pencils or pen
- stop watches

Procedure

1. Schedule a field trip (late May-early June) to Moore Park or other appropriate site for observing breeding Western and Clark's Grebes.
2. Review part one of the bird courtship activity (Activity 3). Review student-generated questions and answers and address any follow-up questions.
3. Review grebe chick rearing information, page 2, and add to journal for reference in the field. Discuss grebe chick rearing terminology: "back brooding" and "free swimming". Split students into groups to have them generate questions about grebe chick rearing to be answered through field observations. Generate a combined class list of questions.
4. Once at Moore Park, have students spread out to observe the grebes rearing chicks. Challenge students to identify Clark's from Western Grebes. It may be best for students to choose a single pair of grebes to observe for 20 minutes, recording chick rearing observations in their journals. Have students take their field journals, binoculars, stop watches, and questions about chick rearing with them in the field. Observations to note are listed on page two of this activity. Back in the classroom: Summarize common behaviors observed by the group. Note similar and unique observations. Tally observations, discuss questions asked, answered, and new questions formed by the students.



Grebe Brood Rearing

Brood rearing in Western and Clark's Grebes

A brood is the term for the chicks of a bird. Western and Clark's grebes may have 1-2 chicks in each brood. Brood rearing is the time when adult birds are raising (feeding and protecting) their chicks.

Raising young is not an easy job. There are many threats to the successful rearing of chicks: predation by other birds, separation from adults, and starvation from lack of food or inexperienced parents, to name a few.

Grebe chicks leave the nest within minutes of hatching and are then "brooded" by both their parents. They climb onto the parents backs (**back brooding**) where they remain until they are old enough to swim and find food on their own. They leave the backs of their parents from time to time to defecate, and as they get older, to practice swimming on their own (**free swimming**). Parents help their chicks climb on their backs by extending a foot to the side to act as a step for young chicks.

While chicks are brooded, the parents feed them small fish and invertebrates. As the chicks beg for food, a red patch of skin can be observed on the top of their heads as they call to their parents. Sometimes an adult will feed the chick directly, other times it will pass the food to the parent with the chick on its back, who then turns and feeds the chick.

Adults feed chicks until they are 8 weeks old and may feed chicks in one to several trips per minute. Chicks may be seen pecking each other as they compete for food.

If a predator threatens the adult or chicks, the adult issues an alarm call sending the chicks hiding under its wings. The adults may dive below the water as a last resort but chicks often fall off when this happens.

Behaviors to observe in the field:

time spent back brooding vs. time spent free swimming

of feeding attempts/minute

of dives for food by male or female

red skin patch on chick's head during begging

chicks competing for food

predator avoidance

