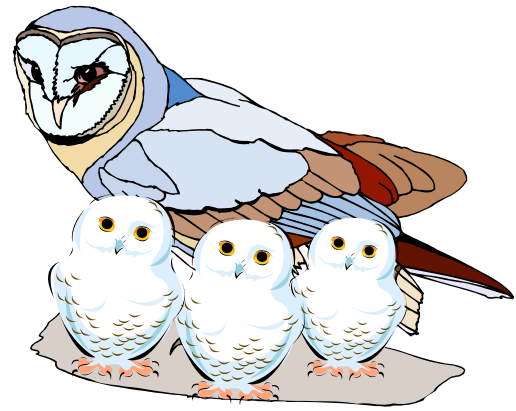


Owl Family Survival

Objectives:

- To simulate the struggle for survival of an owl family.
- To bring food back to the nest despite obstacles.
- To feed and take care of owlets.
- To live in a nest as an owlet.
- Students will experience how adaptations affect a species.
- Students will discuss the importance of resources for a community.
- NJCCCS: 5.1, 5.3, and 5.5



Materials:

- Colored Chalk (to outline nests)
- Black Beans 1-3 lbs (food)
- White Beans – 5 beans (poison)
- Plastic forks (2 per owl parent)
- Small paper or plastic cups (1 per owlet)
- Owl Assignment Sheet – Cut up for students to pick their role

Preparation:

1. Outline 4 – 6 nest circles on the floor using colored chalk. Nests should be large enough for students to sit in without “falling out” yet not be too large.
2. Plastic forks will be altered according to directions (see fork diagrams) and placed into a container, ex. A coffee can.
3. Place several loose piles of black beans around the rooms, some close to the nests, some far away, some not easy to get to. Randomly distribute the 5 white beans into the piles.
4. Have each student pick a slip. This will tell them if they are a parent or an owlet, and what nest they live in. Owlet # 1 is the oldest in each nest.
5. Have owlets pick a small cup.
6. Have parents blindly pick 2 forks from can.
7. Parents and owlets should go to nests and wait for rules of the game.

Rules:

1. The parents may only pick up the food using their talons (forks) and drop the food into the owlets' mouths (a small cup held at their chest).
2. The owlets must chirp (quietly) to get fed.
3. The owlets may **not** assist parents in **any** way and can only hold their cups and chirp. If they "fall" out of the nest, they are dead.

Start Activity:

1. Allow 5-7 minutes for parents to feed their young.
2. Walk around the room and monitor the activity.
3. Gently remind students of rules and their roles.
4. Keep track of owlets that have died by falling out of their nest.



Stop Feeding:

1. When the time is up have everyone sit in their nests. Have owlets count the number of beans and collect data into class chart.
2. Ask students with less than 5 beans to raise their hands. Any owlet with less than 5 beans has died from starvation.
3. At this point, have students raise their hands if they have a white bean. Tell them that they have been poisoned!
4. Complete collecting data into chart.
5. Have all students go back to their desks and discuss the activity. See sample questions.

Some Owl Facts to be shared after completion of activity: (Click here for [source](#).)

Owls lay between one and thirteen eggs, depending on the species and also on the particular season; for most, however, three or four is the more common number. Eggs are laid over a period of several days, therefore the hatching is staggered. This means that there is always a gradation in the size of the chicks in the nest, the larger and more active individuals invariably getting more food from the parents than their smaller, weaker siblings. As a result, it is rare for all the chicks that hatch from a clutch to survive, except of course when food is plentiful. In most seasons the youngest chicks starve, or are sometimes even killed by their brothers or sisters.

This seemingly brutal approach to the rearing of young has in fact positive survival advantages for the family as a whole: it ensures that, whatever the food availability, some offspring will always survive and produce further offspring. If all the young were fed equally there would be a chance that all might starve in years of poor food supply.

Directions:

1. Find your family color. Place “X’s” in the boxes if you do not have that family member.
2. Moms and Dads- draw your 2 talons in the box that has your family color.
3. Fill in the number of beans in your cup if you are an owlet. If you died, place an “F” for fell out, “S” for starved, or “P” for poison.
4. Calculate your success rate. If 5 owlets were born into the nest and 1 died, you would divide 4 by 5 and get an **80%** success rate.



Family	RED	ORNG	YELW	BLUE	GRN	PURP
Mom						
Dad						
Owlet # 1						
Owlet # 2						
Owlet # 3						
Owlet # 4						
Owlet # 5						
Success Rate # alive <u>divided by</u> # born						

[illegible]

Lesson Idea Donated to MiddleSchoolScience.com by Meg W.
Worksheet, Diagrams, Charts, and Questions by Liz LaRosa @
<http://www.middleschoolscience.com> 2004

Questions for Discussion and Written Analysis:

1. Describe the family that you belonged to and what role you played in the family.
2. If you were a parent, how did you feed your offspring? Who ate first? How did you collect your food, did you have a plan? Explain.
3. Which food source was the easiest to get to? Hardest? Explain.
4. Why do you think that different parents had different talon types? How did you overcome your difficulties if you had defective talons?
5. If you were an owlet, describe how you got your food and avoided falling out of the nest. Did you “fight” for food? Did any of your brothers or sisters not make it? Explain.
6. What are some possible outcomes for the owlets if the parents never returned from hunting for food?
7. Which family had the highest success rate? Describe the members of the family and how the parents collected food.
8. What are some benefits and disadvantages of having a small or large owl family, two owl parents vs. one, deformed or whole talons, etc?
9. Describe a family scenario that would have a very low success rate. What scenario would have the best success rate? How many parents, how many owlets, and what kind of talons. Explain.
10. What are some other factors that could affect the success rate of the owl families?
11. Looking at your data, overall, which owlet ate the most food? The least food? Were there any families where each owlet was fed almost evenly? Were there any families where one owlet ate much more than their brothers or sisters? Explain your findings.
12. List at least 3 similarities and 3 differences between the owl families we pretended to be today and a human family.
13. Name at least 3 things you would do differently as an owl parent or owlet if we ran the activity again.



These slips account for **30** students: Red 2 parents, Orange 1 parent, Yellow 2 parents, Green 1 parent, Blue 1 parent, Purple 2 parents. Owllet # 1 is the oldest per nest. Have students pick slips until each student is in a nest. If you have less than 30 students, you can remove some of the slips or leave it to chance as they pick it and modify later. I usually glue slips onto an index card and have the kids pick an index card and put their names on the back. You can then reuse them every year and keep track of how many times a choice has been picked.

Red Owl Mom	Orange Owl Mom	Green Owl Dad	Blue Owl Mom	Purple Owl Mom	Yellow Owllet #1
Red Owl Dad	Yellow Owl Mom	Green Owllet #1	Purple Owllet #1	Purple Owl Dad	Yellow Owllet #2
Red Owllet #1	Yellow Owl Dad	Green Owllet #2	Purple Owllet #2	Purple Owllet #3	Yellow Owllet #3
Red Owllet #2	Blue Owllet #1	Blue Owllet #2	Blue Owllet #3	Purple Owllet #4	Yellow Owllet #4
Orange Owllet #1	Orange Owllet #2	Orange Owllet #3	Orange Owllet #4	Orange Owllet #5	Yellow Owllet #5

24 Forks for Owl Parent Talons = 2 talons for each parent

