Name _____ Date _____ Period _____

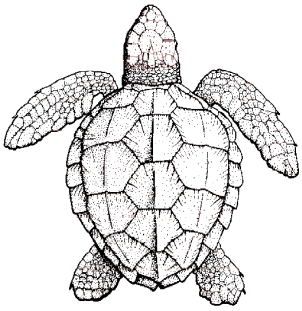

Image from USFWS

# Calculating Loggerhead Hatchling Success Rates

Worksheet for a 5Es Lesson by Rachel Teller

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1. The relocated nests are highlighted/shaded. How do you know, besides the fact that it's stated here? Hint: Look at column J and think about what volunteers do for a relocated nest that they can't do for a nest left in situ. _____

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2. The incubation duration is the length of time between when the eggs were laid and when hatchlings began emerging. Calculate the incubation duration for each nest and complete column D of the table. Hint: You first need to know how many days are in each month.

3. The incubation duration in South Carolina is about 55-60 days. Would the incubation duration be longer or shorter in an area with a warmer climate? _____

4. The number of successful hatchlings is calculated differently for in situ and relocated nests. The number of successful hatchlings from a relocated nest (the highlighted/shaded rows of the table) is determined by subtracting the number of unhatched eggs (column E) and dead hatchlings (column F) from the total number of eggs laid (column J). Calculate the number of successful hatchlings for the relocated nests and complete the shaded rows for column I.

5. The number of successful hatchlings for nests left in situ (the rows not highlighted/shaded in the table) is determined by subtracting the number of dead hatchlings (column F) from the number of shells (column H) found during the inventory. Calculate the number of successful hatchlings for the in situ nests and complete column I of the data table.

6. The volunteers must know the total number of eggs laid in order to determine the proportion of hatchlings that were successful. The total number of eggs laid is known for relocated nests because the eggs were counted twice when they were moved. For nests left in situ, the number of eggs laid (column J) is calculated by adding the number of shells (column H) and unhatched eggs (column E). Calculate the number of eggs laid for the in situ nests and complete column J of the table.

7. The hatchling success rate is the proportion, or part of the whole, that hatch successfully out of the total number of eggs in the nest. Therefore, hatchling success rate (column K) is equal to the number of successful hatchlings (column I) divided by the total number of eggs laid (column J). Multiply the answer by 100 to read the rate as a percent. Complete column K of the table by recording the hatchling success rate as a percent rounded to the nearest tenth.

8. Calculate the overall success rates for hatchlings from both in situ and relocated nests. This can be found by dividing the total number of successful hatchlings (column I) by the total number of eggs laid (column J) in both types of nests. Multiply this answer by 100 to read the hatchling success rate as a percentage.

9. Do you think this is a successful management program? Why or why not? Before answering, consider the impact the 0% success rate for nest 8 had on the overall success rate for hatchlings from in situ nests. _____

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10. What could have happened to nest 8? Give at least three reasonable explanations as to what could have happened to this nest that never hatched. _____

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