

Campus Sea Turtle Nest

Rationale: Adult female sea turtles emerge onto sandy ocean beaches to deposit their eggs. During this process they dig a shallow body pit and, in its bottom, an egg chamber. This exercise describes the construction of a mock sea turtle nest [used for training sea turtle interns] that can be used for demonstration teaching on the school campus. The teacher will construct a mock sea turtle nest and egg chamber. The students will excavate the nest to locate the egg chamber neck by its sedimentary discontinuity with the surrounding soil. The objective is to locate the egg chamber neck with the least amount of work as measured by the volume or weight of soil moved to locate the neck of the egg chamber.

Objectives:

1. To use a hands-on technique to replicate the discovery of sea turtle eggs.
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Materials:

Shovel
Tape measure or meter stick
Small rectangular trowel
Notebook
Ping-pong Balls (#)
Scale

Procedure:

1. Lay out a square or oval 1 meter on a side.

2. Dig out the top 15-20 cm of soil placing the soil on a plastic sheet or tarp.
3. In the bottom of the excavated “body pit,” with a shovel, dig out an egg chamber with a diameter of 20-23 cm and a depth of 40 cm. Make the sides nearly vertical with the bottom of the “egg chamber” slightly enlarged. Fill this “egg chamber” with ping-pong balls. Be a clever “mother turtle” and don’t place your egg chamber in the predictable center of the nest, off set it in one direction.
4. Backfill the neck of the “egg chamber” with soil of a color contrasting with your school’s “native’ soil, pack lightly.
5. Refill the “body pit” with soil from the tarp and leave the top surface sort of swirled as if a turtle had turned around on it.
6. Have your students guess where the egg chamber is located, then have them excavate the pseudo-nest very carefully with a trowel moving the least amount of soil to locate the neck of the egg chamber. Accumulate each field party’s soil in a bag and weigh it or measure its volume. [If you feel competitive, you can design a contest to reward the least work done to find the egg chamber].
7. After each group has located the egg chamber, have your winning group excavate the egg chamber and find the surprise clutch of ping-pong eggs.
8. Each student should describe the “nest’ prior to digging and make a scaled sketch of the “nest” in his/her notebook. An “x” should be placed on the sketch by the student to indicate where he/she anticipates finding the egg chamber. The student should then describe the process of excavation and indicate where the egg chamber was located and the amount of soil removed to find it. The soil taken out by all groups can then be graphed or charted in a histogram to teach charting skills.

Time Frame: 4 hours

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