



Box Turtle Blitz

In this activity, students will act as herpetologists, searching for box turtles, a Species of Greatest Conservation Need in Rhode Island, and will record information on data sheets. Students will learn how scientists estimate populations and why it is important to monitor wildlife. This activity can be done in an outdoor space or classroom setting.

Materials:

- Laminated turtles - You can use the turtles provided in the Scales & Slime bin, or use the “Box Turtle Template” to create your own. Students can help create a population of box turtles as a craft before the activity.
- Turtle data sheets
- Tape measure or ruler
- Pencil
- Small flags
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How to:

1. Set up the survey area:
 - If playing outdoors, create 5 “survey transect lanes” using flags. Lanes should be approximately 10ft wide and 50ft long. They can be adjacent to one another.
 - If playing indoors, designate 5 “survey plots” within the classroom at least 10ft by 10ft each. They can be adjacent to one another.
2. Hide 1 turtle within each survey area. Feel free to hide them under/behind objects.
3. Introduce the activity and explain they will be performing a box turtle survey.
4. Break the class into five groups and assign each group a survey area.
 - If playing outdoors, explain that each group will survey only within their transect. They will stand side by side within their lane and hook arms. As a team, they will slowly walk toward the end of the lane, observing the ground for turtles as they go.
 - If playing indoors, explain that each group will search for turtles ONLY within their own survey plot. Encourage them to come up with a plan of how they will search the area thoroughly.
5. Once each group has completed their survey (and found a turtle), they should sit with their group.
6. Review the data sheet with students and have them record the habitat in which they found the turtle (field, woods, classroom...), the weather, and the time.
7. Have students measure the length and width of the turtles, determine the sex (males have red eyes, females have yellow or brown) and age them (count the number of growth rings on the plastron, like a tree) and mark down any other observations (damage, markings, etc.). Notches on the outer scutes of the shell indicate that the turtle has been observed by a biologist before, and given a unique marking to identify it. If you decide to create your own turtles, add some unique shell notches to a few of them to simulate this mark-recapture survey method.

Discussion:

Was it difficult to find a turtle? Do you think it would be harder to find one if the survey area was the size of Rhode Island?

It may have been easy to find a turtle in this small area but surveying all of Rhode Island would be nearly impossible and would take a VERY long time. Instead of surveying the whole state this way, herpetologists pick places they are likely to find them, with good turtle habitat, and survey small sections across the state. This can at least determine which parts of the state do or do not have box turtles.

Do you think it is possible to count every turtle in Rhode Island?

Even if we could cover the whole state, box turtles can be tricky to find. They often bury themselves beneath grass or leaf litter. Even though herpetologists are very good at finding reptiles, there is always a chance that a few could be overlooked. It would also be very time consuming to count all of the box turtles in the state, and to find and count all of the new baby box turtles that hatch every year.

Are any of the turtles “notched?” Why do herpetologists mark turtles this way?

Herpetologists file these small notches into turtles’ shells to tell them apart. Each turtle has a different code, the notches are located on different areas on the carapace. Scientists keep a record of all of the turtles they have notched so they can tell when they have caught the same turtle more than once.

What information can scientists obtain from these surveys?

By surveying different areas of the state, scientists can tell where box turtles like to live, this lets them know what habitats are important to protect. By marking each turtle, they can estimate the size of the turtle population in Rhode Island by comparing the number of “recaptured” turtles vs. the number of new turtles they capture each year. Taking data on age and size can tell us about how long box turtles live and how big they are. They can also look at the health of the population by comparing the number of adults to hatchlings and males to females.

Why is it important to monitor (keep track of) turtle populations?

Scientists perform these surveys each year to see how the turtle population changes over time. Are there more turtles than last year? Less? Are they moving to new locations? Looking at past years, scientists can determine what is “normal” and what is abnormal. If scientists didn’t monitor wildlife populations, we wouldn’t even know what “normal” was and might not notice if animals were slowly disappearing in our state. With all of the data that we gather, we can make sure populations are healthy, and take action if wildlife needs our assistance!

Outdoor Survey Transect Layout



Box Turtle Data Sheet

Name:	Date:	Time:
Temperature:	Weather:	Habitat:

Carapace Length (mm)	Carapace Width (mm)	Plastron Length (mm)	Plastron Width (mm)	Age*

*To figure out how old your turtle is, count the number of lines (annuli) in one section of its plastron.

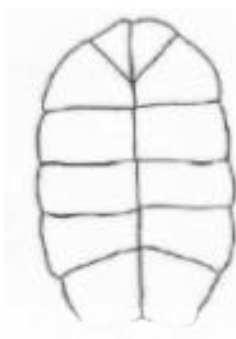
Circle your turtle's characteristics:

Male (red eyes)	Female (yellow or brown eyes)	New (no marks)	Recapture (shell has notches)
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Comments:

Draw any other markings, damage, or observations below:

PLASTRON



CARAPACE

