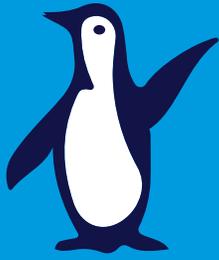


STAY HOME



with  SHEDD AQUARIUM



Race to Restoration



Turtles, like a lot of animals, have been positively and negatively affected by human influences over the years. Populations all over the world face challenges such as unsustainable pet trading practices, habitat loss and roads that separate habitats from each other. However, there are things that humans can do to help make a positive difference for turtles and improve their ability to survive in the wild. This activity will simulate the ways that a small turtle population might be affected by human and natural causes in positive and negative ways.

Before we dive in to the activity, here are some important vocabulary terms to know:

- **Wildlife Corridor:** Wildlife corridors are routes that animals take to get from one part of their habitat to another. They can be natural, or humans can make them to help animals avoid human interference.
- **Head-start Program:** Head-start programs are designed for animals to get a “head-start” on life by being raised in human care until they are large enough to be released into their natural habitat with a better chance of survival. Learn about a head-start program at Shedd at sheddaquarium.org/stories/helping-blandings-turtles-get-ahead-with-a-head-start
- **Invasive Species:** Any living organism (animal, plant, fungus, bacterium) that is not native to an ecosystem and causes harm.
- **Stewardship:** Supervising or taking care of an area. Stewardship activities include cleaning up litter, planting native plants, or removing invasive species.

These activities are designed for families with children in grades 3-5. Educators can see an overview of all turtle activities and classroom recommendations at sheddaquarium.org/files/turtle-teachers-guide.



STAY HOME WITH SHEDD • TURTLE ACTIVITY

Race to Restoration

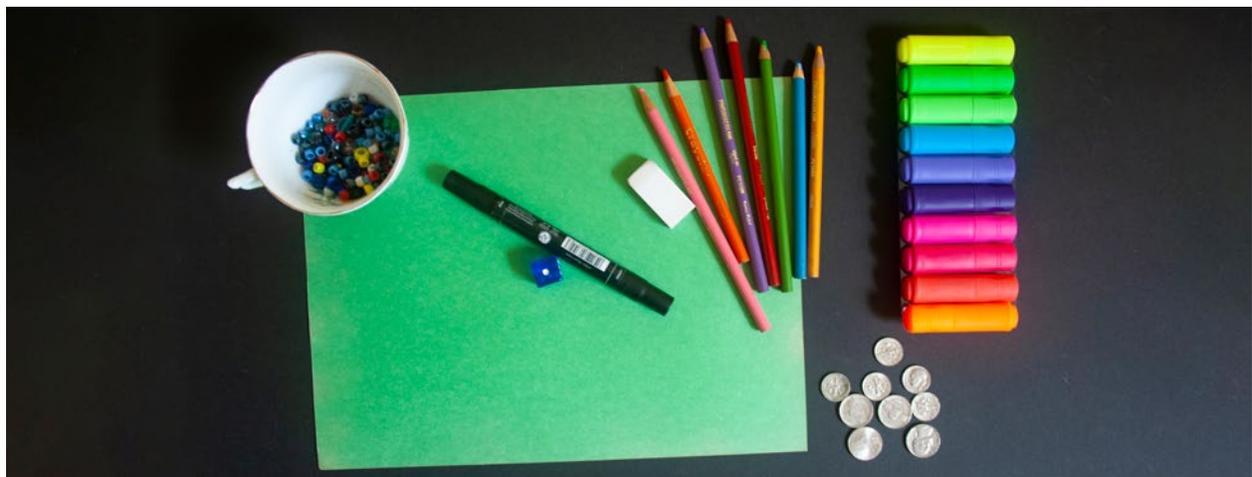
MATERIALS

- **Piece of paper or paper plate** to make your gameboard from.
- **Science journal or somewhere to take notes**
- **Markers**
- **M&Ms or Skittles** or any other small object that can easily be counted– you will need between 40–70 of these to represent turtles in the game.
- **One six-sided die:** If you don't have one, make a die out of computer paper using the cube template at firstpalette.com/pdf/cube.pdf



SET UP YOUR GAME BOARD PART 1/3

In this activity, you will make and play a game that represents the ways that humans can influence turtle populations. Each round, you will use a die to randomly select an outcome that changes your turtle population. You will record your data with each roll. If you want to play with other family members, have them create their own gameboard and grab or create their own die.





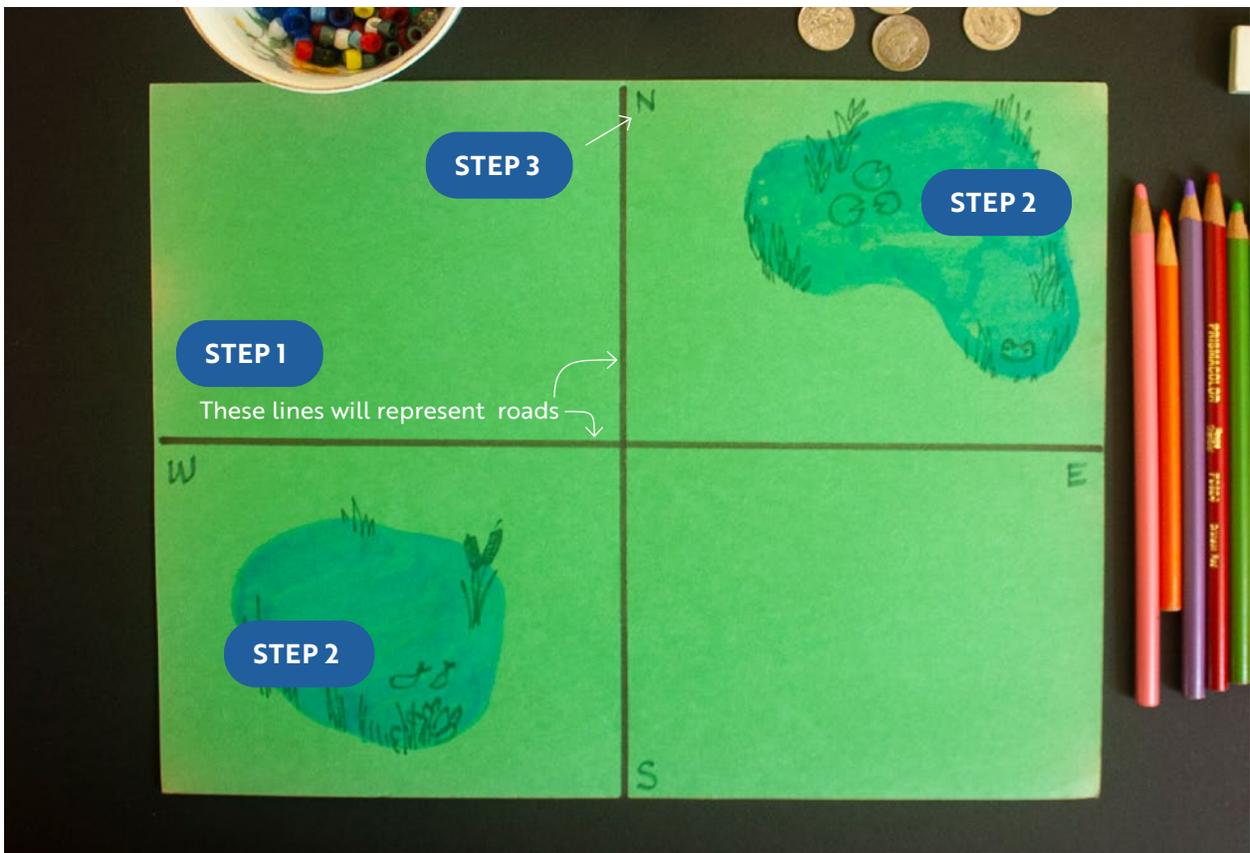
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SET UP YOUR GAME BOARD PART 2/3

Step 1: Divide your game board into four equal quadrants. You can fold the paper or use a marker or other writing utensil.

Step 2: In any two quadrants, draw ponds to serve as freshwater sources for the turtles.



Step 3: Label north, south, east and west on your paper and make sure to keep it lined up the same way throughout the activity.



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SET UP YOUR GAME BOARD PART 3/3

Last Step: Print out or copy down the data table below on a sheet of paper or in your science journal. It will be used to record the number you rolled, the total number of turtles at the end of each round, and whether the turtle population increased or decreased at the end of each round. **Now you're ready to play!**

Print and cut out this data sheet to add to your science journal or copy your own version onto a blank page.

STAY HOME WITH SHEDD AQUARIUM RACE TO RESTORATION

<i>Game progress ></i>	NUMBER ROLLED/ OUTCOME	NUMBER OF TURTLES	CHANGE IN POPULATION
Start	X	20	X
Round 1			+ / -
Round 2			+ / -
Round 3			+ / -
Round 4			+ / -
Round 5			+ / -
Round 6			+ / -
Round 7			+ / -
Round 8			+ / -
Round 9			+ / -
Round 10			+ / -

ROLL SUMMARIES:



Skip to Step 3



Place five new turtles into one quadrant.



Roll again:
Odd result: Select one pond to dry up. Refer to the rules on page 6.



Choose:
Reproduction x2 in one quadrant of your choosing **OR** roll to restore a dried pond.



Build a wildlife corridor: Draw a path spanning the road between two quadrants.



During step 4, divide by 10 rather than by 5.



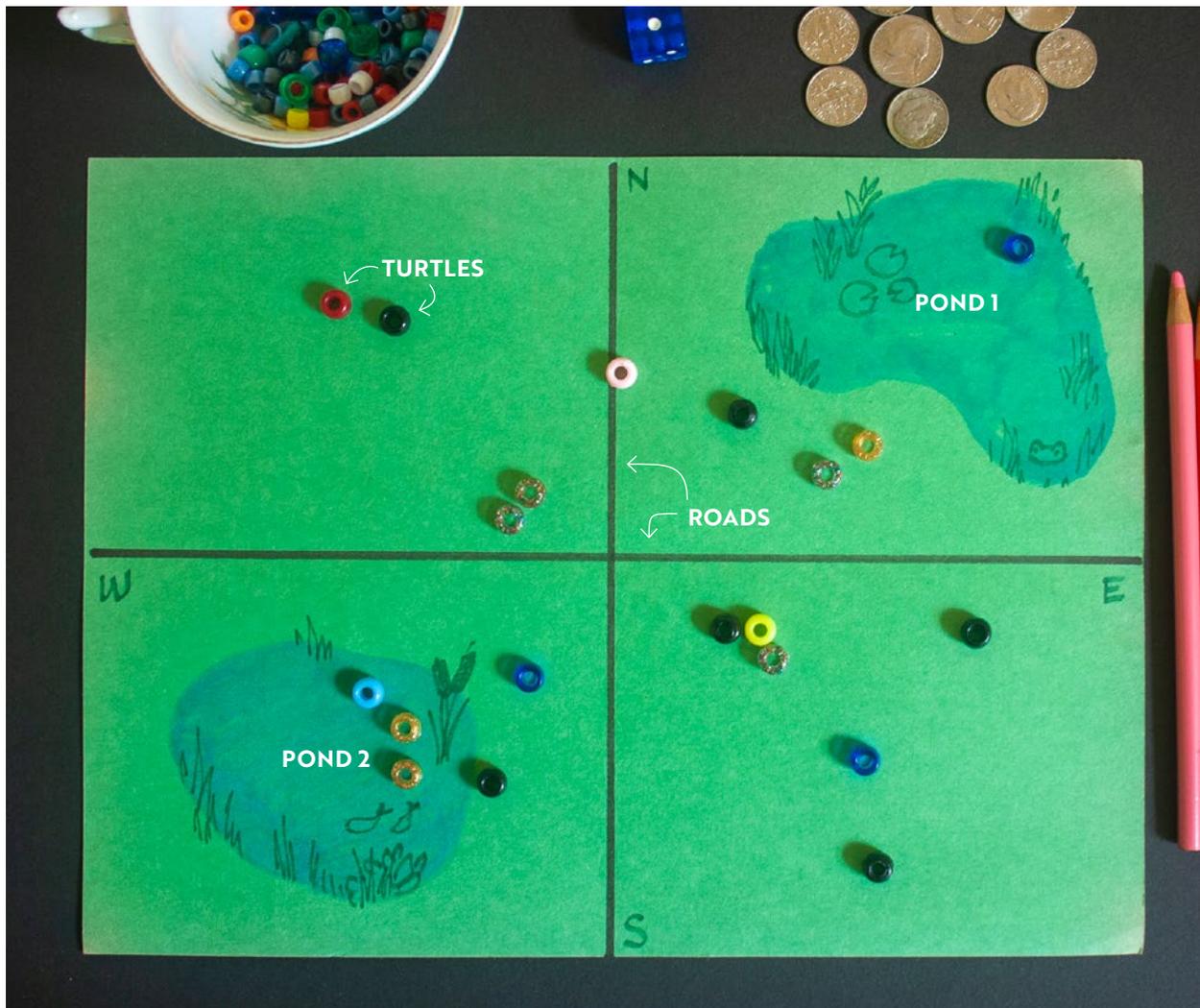
Race to Restoration



GAMEPLAY INSTRUCTIONS PART 1/4

Now that you're all set up, it's time to play! For each turn, roll the die once and record the outcomes of each round on the data table from page 4.

Step 1 • Starting the Game: Scatter twenty "turtles" onto the game board. Don't worry about how they land—randomness is part of the game. If any pieces accidentally fall off of the game board during the activity, do your best to replace them to where they came from.





Race to Restoration



GAMEPLAY INSTRUCTIONS PART 2/4

Step 2 • Beginning of a Round: Roll a die and follow the instructions below, recording your result in the data table from page 4. Once you have satisfied the result of your roll, continue to step 3.



ONE: No outside interference.
Skip to Step 3.



TWO: An organization runs a successful head-start program!
Reach into your bag and place five new turtles in one quadrant of your choice.



THREE: It has been a dry year and one of your ponds is in danger of drying up. **Roll again.**

- **If you roll an even number,** nothing happens. Continue to step 3.
- **If you roll an odd number,** select which of your ponds will dry up. Unless you have a wildlife corridor, remove all turtles in this quadrant and remove them from the game. If you have a wildlife corridor, move two turtles to a more advantageous location and remove the rest.

• If both of your ponds dry up, your turtle population will not have enough water to survive and the activity is over.



FOUR: Select one of these two options:

- **Option 1: Select one of your four quadrants to receive a cleanup and native planting.** During Step 3 of this turn, each pair of animals that reproduce in the selected quadrant will have two offspring instead of one.
- **Option 2: Roll again to attempt to restore a dried pond.** If you roll an even number, the pond that dried up fills back up with water and is once again a healthy habitat.



FIVE: Build a wildlife corridor so turtles can safely cross the road to reach a different quadrant. **Draw a path spanning the road between any two quadrants.** A corridor allows the two turtles who are closest to move to a more advantageous quadrant to find a mate or to escape a drought.



SIX: Thanks to the work of some volunteers, the population of an invasive species that competes with your turtles for resources is reduced! **During Step 4, divide by 10 instead of by 5.**

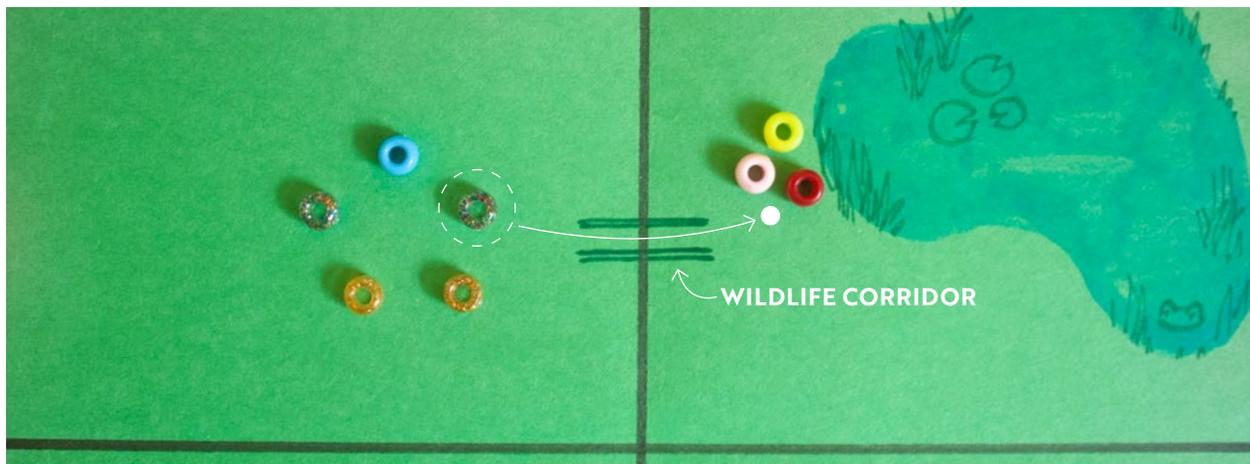
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GAMEPLAY INSTRUCTIONS PART 3/4

Step 3 • Turtles Reproduce: In each quadrant, put pairs of turtles together. Each pair produces one successful offspring, unless one of the below exceptions changes that result. Add the necessary number of new turtles from the bag to the board.

- **If you rolled a four in step 2 and chose the cleanup and native planting,** each pair of turtles will produce two offspring instead of one.
- **If a wildlife corridor exists between two quadrants,** you may move a maximum of two turtles per corridor from one connected quadrant to another in order to create reproducing pairs. *Example: There are three turtles in quadrant one, and five turtles in quadrant two. If a wildlife corridor exists between them, then one turtle may be moved from one quadrant to the other so that there are even numbers of turtles in both quadrants (illustrated below).*



Step 4 • Population Reduction: After completing step 3, count the total number of turtles and divide that number by five, unless the exception below applies. Round down to the nearest whole number (*Example: 4.6 = 4*). This is the number of turtles who have passed away from natural causes. Remove one turtle from each quadrant, moving clockwise, until you satisfy the number of turtles that must be removed.

- **If you rolled a six in step 2,** instead of dividing the total number of turtles by five divide by 10, otherwise following the instructions for this step.



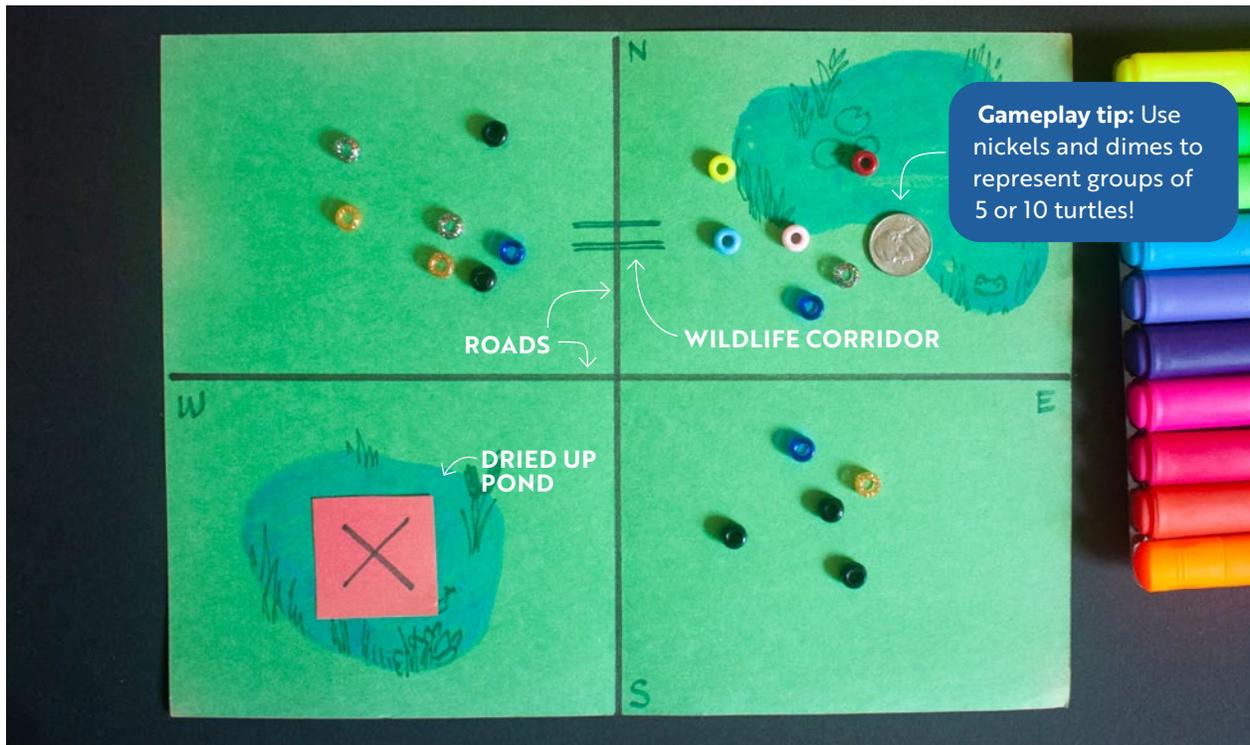
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GAMEPLAY INSTRUCTIONS PART 4/4

Step 5 • Start the Next Round: Return to step 2 and repeat until you've completed ten rounds. Be sure to record the number you rolled, the total number of turtles at the end of each round, and the change in the turtle population at the end of each round in your data table from page 4.

Gameplay Tip: If you start to run out of tokens, you can use nickels or dimes to represent groups of five or ten turtles!



SHARE WITH US!

We want to see what you made! Take a picture of your finished turtle game board and share it with us [@SheddLearning](https://www.instagram.com/SheddLearning) using [#StayHomeWithShedd](https://www.instagram.com/StayHomeWithShedd).



Race to Restoration



REFLECTION: ANALYZING CONSERVATION EFFORTS

Print out and paste the reflection sheet below into your science journal opposite the data table from page 4, or copy the questions down on a separate piece of paper. As you answer the questions, consider what you have learned about the challenges that turtles can face in the wild.

Print and cut out this data sheet to add to your science journal or copy your own version onto a blank page.

**STAY HOME WITH SHEDD AQUARIUM
RACE TO RESTORATION**

Results: Did your turtle population grow or shrink from the original twenty turtles at the beginning of the activity?

GROW SHRINK

Results: What was the largest increase in your turtle population during this activity? During that round, what was the outcome when you rolled the die?

Conclusion: What did this activity teach you about the positive and negative effects that humans can have on animal conservation?
