

PATRICIA NEWMAN

Happy Rhinos

This activity connects students to endangered species with an activity that combines design thinking with language arts.

Objective: Design a zoo enclosure using the materials provided that will maximize a black rhino’s mental and physical health.

Materials:

- ✓ Copy of *Zoo Scientists to the Rescue*
- ✓ Pencil and paper
- ✓ Any combination of building materials, such as Legos, blocks, pipe cleaners, Wikki Stix, etc.

Procedure:

- ✓ Read the “Feces Save Species” chapter of *Zoo Scientists to the Rescue*. Discuss the following questions:
 - Talk about black rhinos—where they live, what they eat, how they sleep, etc.
 - What are some of the dangers black rhinos face?
 - What does habitat loss mean?
 - Name some things you like best about Rachel’s job. Would you like to have her job? Why or why not?
- ✓ Discuss how zoos are redefining bare, boring cages for animals to include lots of stimulation and natural habitat features. Discuss how zookeepers might care for black rhinos (there are hints in the “Feces Save Species” chapter.)
- ✓ Ask the student to list several black rhino facts about their behavior, biology, and habitats using the “Feces Save Species” chapter as a reference. Students can work in small groups first before discussing as a class, or you can complete this task as a class. The final list should be large enough for everyone to read.
 - Possible list items, include:
 - Native to grasslands / shrublands
 - Typically solitary



Figure 1: One possible black rhino enclosure

- A wild male will find a wild female ready to mate. In a zoo, keepers must bring the male and female together.
 - Herbivorous
 - Weight: 3000 lbs and up
 - Critically endangered
 - Shy
 - Horns made of keratin (like our hair and fingernails)
 - They poop A LOT
 - Warm weather animals
 - Males scrape feces to set boundaries of territory; females scrape to look for a mate
 - Wild rhinos walk miles, but zoo rhinos are more sedentary. As a result they need their toenails clipped by a keeper.
 - Difficult to breed in zoos
- ✓ Next, students work in small groups to draw a black rhino enclosure specifically designed to meet the rhino's (and the zookeeper's) needs. Students should work off the list created in the previous step.
 - Note: Diagrams must include labels for each part of the drawing and arrows to show how the rhino might use the enclosure and how zookeepers might take care of the rhino. These labels and arrows are important because they force students to articulate their thought process.
 - Some possible considerations to include when designing an enclosure include:
 - Medical treatments
 - Feeding
 - Weighing
 - Shifting (from one area to another)
 - Temperature
 - Cleaning enclosure
 - Fresh water supply
 - Enrichment "toys"
 - Size of enclosure
 - Other?
- ✓ Once the diagram is completed, students use the building materials provided to build their enclosure. Again, labels and arrows will help other understand their thinking.
- ✓ Students share their enclosures and articulate their design thinking with the class.

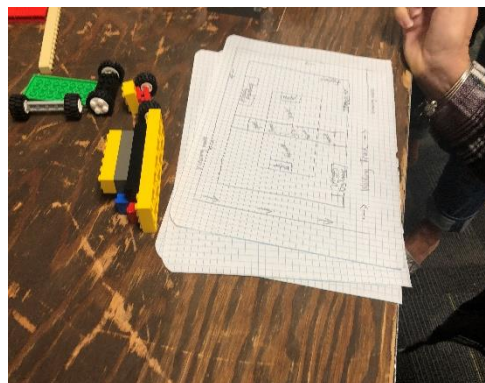


Figure 2: The diagram for the black rhino enclosure in Figure 1.