



Homeschool Learning Network Crocodiles: Super, Mini and Future!

Name _____

Date _____

Subjects: Science, Math
Grades: 3-12
Style: Visual/Experiential/Kinesthetic

Concepts:

Students will create models scaling down SuperCroc to create a MiniCroc. They will have to figure out, mathematically, how to make their MiniCroc so that the dimensions are in proportion with the dimensions of SuperCroc that was said to have lived over 100 million years ago.

Lesson:

Grades 3-8: Mini Croc!

How big was SuperCroc? Paleontologists scaled their model to make it larger in order to estimate the size of SuperCroc. Now it's your turn to create a mini model! Just as the scientists scaled the modern day crocodile *UP* to create SuperCroc, you must scale SuperCroc *DOWN*. You can use any kind of modeling clay to produce your version of the MiniCroc.

First you must gather the information on SuperCroc. Make a list of its measurements and dimensions.

- How big was the skull?
- How much did SuperCroc Weigh?
- How long was SuperCroc's body in comparison with his Skull?
- Use other measurements that you heard in the DVD.

Next, you must list the scaled down measurements of your mini-croc.

For example, if the skull is said to be only one third of the length of the crocodile, the body must be the size of two skulls.

When you have completed your model, use an old shoebox to create a diorama depicting the environment for your mini-croc. You can use real plant life, or paint, draw and mold to create the natural habitat of your mini-croc. Create mini-versions of the type of environmental objects that you would imagine had existed in the time of SuperCroc.

Here are some suggested supplies to be used for your diorama: Shoe box, construction paper, air dry clay (various colors), yarn, pipe cleaners, rocks, markers, crayons, glue, rubber cement, paper clips, leaves, sticks, other misc. materials.

Grades 9-12: Crocs of the Future

1. Crocodiles have existed since the age of the dinosaurs. Why? Have your students brainstorm and list the qualities, physical and behavioral, that have led to the successful endurance of crocodiles.
2. Next, discuss how the crocodile has needed to change and adapt since its early existence. Make a list!



Homeschool Learning Network Crocodiles: Super, Mini and Future!

Name _____

Date _____

3. Next, discuss how environmental factors of today, such as global warming, water pollution, air pollution, or human population growth may force crocodiles to adapt.
4. Finally, draw a scientific, scaled illustration of what your FutureCroc might look like!

Additional Activities:

- Visit the Yale Peabody's museum website to view "The Age of Reptiles" mural. See what artist, Rudolph Zallinger, portrayed in to be the timeline of dinosaur evolution from over 300 million years ago. <http://www.peabody.yale.edu/mural/>
- Imagine yourself visiting one of these time periods. Imagine that you are surrounded by the creatures of that time. What would the world look like to you? Try and describe what you see. How do you think the creatures around you would see you?
- How did the dinosaurs communicate without words? Click on the picture of the dinosaur on this website to hear the computer generated sounds that scientists have recreated of a dinosaur living over 75 million years ago. <http://www.sandia.gov/audio/songLQ.aif>
- Fossil records of the large bones in the dinosaur's ears compared to corresponding bones in human ears suggest they were able to hear lower frequencies than humans. Listen to the sounds around you; try to determine the difference between low and high frequencies. What is the every-day sound with the lowest frequency that you can hear? The highest?
- While watching the DVD, did you feel scared or anxious at any time? Try and describe these feelings. What happens to your body when you feel afraid? What actions might you take or not take? What else causes you to feel this same feeling?
- People sometimes talk about "Crocodile Tears". These are not actually the tears of a crocodile! Read more at this related site: <http://www.flmnh.ufl.edu/cnhc/cbd-faq-q6.htm>. What do you think?!
- Weigh yourself on a scale. Write down your weight. Now, using the weight of your body, how many of you would equal the weight of SuperCroc? (18,000 pounds)
- Create a dinosaur puppet! The following link will show you how and tell you what materials you will need. **Susan's Crocodile Puppet** <http://www.kckpl.lib.ks.us/ys/crafts/Crocodile.htm>



Homeschool Learning Network Crocodiles: Super, Mini and Future!

Name _____

Date _____

Additional Resources:

SuperCroc

<http://www.supercroc.org>

The official SuperCroc website.

The Ultimate Guide: Crocodiles!

<http://school.discovery.com/lessonplans/programs/crocodiles/>

This site from Discovery Channel is an excellent learning guide to studying crocodiles of the past and present.

NOVA's Crocodiles

<http://www.pbs.org/wgbh/nova/crocs/>

This is a companion site for a show that originally aired in 1998. It includes a "clickable croc", a who's who of crocodilians, and more.

The Age of Reptiles Mural

<http://www.peabody.yale.edu/mural/>

Visit the Peabody Museum at Yale University to view the "Age of Reptiles" mural. Gives artistic timeline of the different dinosaur periods.

After the Dinosaurs: When Crocodiles Ruled

<http://www.sdnhm.org/exhibits/crocs/links.html>

San Diego Zoo's Natural History Museum's website provides links to other valuable dinosaur and crocodile information and resources.

Crocodiles!

<http://www.sdnhm.org/exhibits/crocs/links.html>

PBS and Nova take an up-close and personal look at the crocodile, a remarkable species that has survived virtually unchanged since the age of the dinosaurs.

Crocodilians: Natural History and Conservation

<http://crocodilian.com>

Includes species lists, Biology database, information on communication, and information about preventing extinction.

Paleontology and Fossils Research

<http://www.u.arizona.edu/~jmount/paleont.html>

Provides details and links to associations, clubs and societies of paleontologists. Learn what is involved in fossil research!