



Revised 6/00

Lesson 39

Dino Babies

Grade Level: K-2

Teachers, this is a basic lesson plan that you may modify at your discretion.

Modifications to video: There may have been changes to the lesson plan since the video was made. This lesson plan reflects the latest updates made as a result of suggestions from teachers who have presented the lesson during the daytime program. Please continue to send us your ideas!

Overall educational objective: Students will be able to explain what a dinosaur and a fossil are. The students will describe what paleontologists do and how they reconstruct the lives of dinosaurs from the fossil record. They will be able to state that dinosaurs hatched from eggs.

Associated Standard and CORE objective:

- 3020-0102 Compare ways that animals care for their young. Know that some kinds of things that live today still resemble once-living things that have completely disappeared.
- 1300-0102 Plan sounds and physical attributes for a character that make sense considering the given circumstances of a story.
- 1320-0204 Develop concentration and concern for detail when working in classroom dramatizations. Stay in the scene. Maintain concentration despite unexpected distractions.

Materials list:

- | | |
|---|--|
| 3 - ceramic hatching dinosaur | 1 - tree |
| 6 - Velociraptor puppets | 1 - bush |
| 6 - Parasaurolophus puppets | 2 - buckets (to put "egg nest" tarps on) |
| 6 - Dilophosaurus puppets | 2 - "egg nest" tarps (6` round) |
| 6 - Dinosaur-in-egg puppets | 1 - mural backdrop tarp (4` tall x 30` wide) |
| 3 - Pterodactyl puppets | 1 - painted floor tarp (15` x 15`) |
| 6 - Finger puppet mice (each child uses 2 to 3) | 1 - radio |
| 6 - Finger puppet mosquitoes (each child uses 2 to 3) | 1 - cassette tape with background sounds |
| 2 - photos of the dinosaur looking into nest | 2 - lights |
| 1 - picture of the dinosaur herd | 2 - dimmers |
| 1 - 3D picture of hatching baby dinosaurs | 2 - extension cords |
| 15 - 3D glasses | |
| 1 - Book: Maia: A Dinosaur Grows Up | |
| 1 - "Baby Donosars' First Day" Script (found at the end of this lesson) | |

Teacher pre-lesson activities: In addition to this lesson plan, you should have received 1) book called “Maia: A Dinosaur Grows Up,” 2) “Baby Dinosaurs’ First Day” script, 3) video tape.

1. View video clips about Egg Mountain to learn about its history and how paleontologists (pail-e-on-TALL-o-jists) use fossils to learn about earth’s history. Read through the book called “Maia: A Dinosaur Grows Up” and “Baby Dinosaurs; First Day” script. You may choose to condense the story of Maia yourself or use the supplied “Condensed Story of Maia.” Watch the video of 25 children acting out the script.
2. Set up stage as shown in the script and on the video. If you need assistance, contact a Junior Engineering staff member.

Lesson activities:

1. Discuss what the children think a fossil is. Explain that a fossil can be any remains or traces of ancient life such as bones, eggs, nests, teeth, and footprints. Describe how a paleontologist “reads” the fossil record left and comes up with “stories” about how dinosaurs lived. Explain how a paleontologist in Montana named Jack Horner “read” the fossil record left in rock and inferred ideas about how dinosaurs lived and took care of their babies. Describe how Dr. Horner also made up a story about a baby dinosaur named Maia and how she grew up. Explain that Maia is a duck-billed dinosaur called Maiasaura (mah-ee-uh-SOR-uh). Maiasaura means “Good Mother Lizard.”
2. With the children in a semicircle around you, tell (in condensed form) the story of “Maia: A Dinosaur Grows Up.” (You will probably want to skip the chapter about the baby duckbill being killed.) Show the children the model of the hatching Maiasaura baby. Ask the children questions like the following:
 - a. How were new dinosaurs born? Do you think they were born like puppies and kittens? Were they hatched from eggs like chickens and turtles? Explain how Jack Horner found fossil eggs, egg shells, and babies in nests. Describe how the babies pecked out of their eggs with a tooth-like part on their noses.
 - b. How big were the babies when they hatched? Jack Horner found fossil eggs that were the size of footballs. The eggs were laid in groups of 12 or 24 and covered with vegetation. The eggs were arranged in the nest in a circle with the center egg standing up and the other eggs tilting towards it. When they hatched, the babies were about 14 inches long. Like baby birds, the babies could stand up but not walk.
 - c. How might have the parents cared for them? Show the photo of the dinosaur looking into the nest. The parents probably brought fruits and leaves to the babies. The babies stayed in the nest until they were about three feet long. The parents grew up to be 30 feet long and they weighed between two and three tons.
 - d. How did the families live? Show the picture of the dinosaurs in herds. They traveled in groups, or herds, probably for safety against the meat-eating dinosaurs.
3. Using the “Baby Dinosaurs` First Day” script provided, help the children act out a play about baby dinosaurs and their families using the provided dinosaur puppets, backdrop canvas, props, music and lighting. Remind the children that they need to listen carefully and not talk while you are telling the story so they will know what to do. Also remind them not to use their puppets to bite or snap at other children. Children like repetition so you may choose to have them run through the script several times.

4. Remind the children about the importance of fossils and how paleontologists read the fossil record to understand more about how creatures lived long ago.
5. Call attention to the career fields that are related to this module. Discuss how students might prepare for occupations that interest them. Note the career links at the end of this lesson.

Teacher tips: You may choose to make up your own script for the children to act out. If you have less than 30 children, you can cut back on the number of puppets used. Note that the parent and baby parasaurolophus dinosaurs and the velociraptors are essential to the story. Note also that the script describes a story that is not exactly historically accurate; for example, the dilophosaurus did not live at the same time as the other animals.

Other Activities:

1. Have the children “pet” the hatching parasaurolophus dinosaur babies using 3D glasses.
2. See the “hatching” fossilized dinosaur egg models on the World Wide Web (<http://www.nationalgeographic.com/features/96/dinoeggs/>).
3. Explain that other dinosaur babies and eggs have been found in the rock. Show the children the models of the hatching T-rex and velociraptor dinosaurs.
4. Have the children write their own scripts for “Baby Dinosaur’s First Day.”

Fun Dinosaur Museums and Parks:

1. College of Eastern Utah Prehistoric Museum (<http://www.ceu.edu/museum/index.htm>)
2. Dinosaur National Monument near Vernal in Northeast Utah (<http://www.infowest.com/Utah/dinosaurland/index.html>)
3. Museum of the Rockies in Bozeman, Montana (Jack Horner) (<http://www.montana.edu.wwwmor/>)
4. Ogden, Utah’s Dinosaur Park (<http://www.dinopark.org/>)
5. Wyoming Dinosaur Center (<http://wyodino.org/>)

Please make your students aware that this lesson relates to the following:

Career Fields: SCIENCE

Occupations: * **Museum Curator:** Plan and oversee the arrangement, acquiring of items, cataloguing, and exhibition of collections as well as maintaining the collections. They describe and classify species related to their fields, usually dealing in cultural, biological, or historical collections. They may also conduct research on topics or items related to their collections.



Education: Masters Degree, 3-5 years museum experience, may require record of scholarly publishing

Paleontologist: Study fossils found in geologic formations to trace the evolution of plant and animal life and the geologic history of the earth.

Education: Bachelor's Degree

*** Taken from Occupational Outlook Handbook 1998-1999.**

Review Questions:

1. How do we know dinosaurs once existed on this planet?
2. What is a fossil?
3. Did dinosaurs live in Utah? Montana?
4. What do we call a person who studies fossils?
5. How are dinosaurs born?
6. What do dinosaurs eat?

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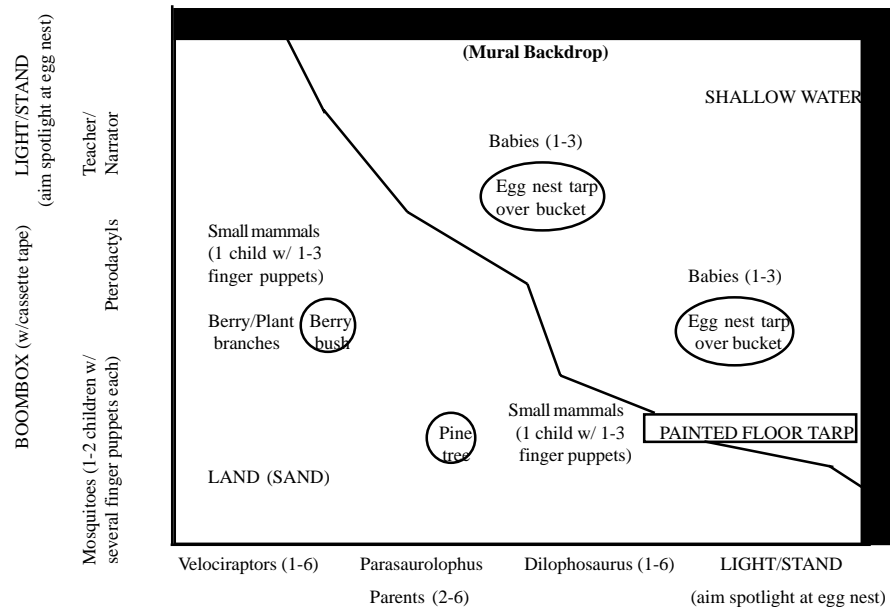
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Script: Baby Dinosaurs' First Day

Introducing the characters:

Parasaurolophus
 Dilophosaurus
 Velociraptor
 Baby Dinosaur-in-Egg
 Pterodactyl
 Mosquito
 Furry Mammal

Position the children as shown below:



[Music from cassette softly playing in background.]

Narrator: Let's introduce the characters in our play. First, the parasaurolophus (PAR-uh-SAW-ruh-LOH-fus) dinosaurs who are duckbill dinosaurs with short muzzles and curved crests on their heads. [Motion for the children with the parasaurolophus puppets to stand up.] The crest was a hollow tube probably used to make loud trumpeting or honking sounds. [To children with parasaurolophus puppets:] Can you honk?

Parasaurolophus: Honk, honk.

Narrator: Thank you, duckbills. You can sit down now. And the dilophosaurus (dye-LOH-fu-SAW-rus) dinosaurs. [Motion for the children with the dilophosaurus puppets to stand up.] I will call you "dilopho" for short. These were meat-eating creatures who had two thin, bony ridges on the top of their heads and sharp teeth. Thanks, please sit down. The velociraptor (vel-OS-ih-RAP-tore) or raptors were quick, dangerous meat eaters. [Motion for the children with the velociraptor dinosaurs to stand up.] They had long, low heads and curved sharp claws. The raptors probably ran in packs. Can we hear you roar? Louder? Scary, uh? [Motion for them to sit down.]

Narrator: The pterodactyls (ter-a-dak-toll-s) were flying reptiles with long wings. [Motion for the children with pterodactyl puppets to stand up.] Show us how you flap your wings. Like pelicans, the pterodactyls probably used their scooplike beaks to snap up fish which the flying animal then swallowed whole. There were also insects such as mosquitoes [motion for children with mosquitoes to show their puppets] that buzzed. Let's hear your buzzes, mosquitoes. Great. [Motion for the pterodactyls and mosquitoes to sit down.] Then there were small, furry mammals [motion for children with furry mammal puppets to stand up.] And finally, the baby duckbill dinosaurs. [To the children with the dinosaur-in-egg puppets:] Can you poke out of your shell for a minute and squeak? That's good. Baby dinosaurs, would you hide behind the nests until we need you? Now we know all of our puppets. Are you ready to act out the story of "Baby Dinosaurs' First Day"?

Narrator: It is a quiet day. A swarm of mosquitoes circle over the shallow water. Pterodactyls lazily glide high overhead, their huge wings stretched from their bodies. [Motion for the children with the pterodactyl puppets to circle the water.] As they fly across the water they bend their heads down. Then they are gone. [Motion for the children with the pterodactyl puppets to leave the stage to the left.] And so are the mosquitoes. [Motion for the children with the mosquito puppets to leave the stage to the left.]

Narrator: A group of dilophosaurus, or diloph, dinosaurs walk on two legs up to the water. [Point to the children with the dilophosaurus puppets and motion them towards the water at far right corner of the stage.] They begin to quietly drink the water. Occasionally, one raises his head, its thin ridges standing on the top of its head, and looks both directions.

Narrator: Hidden behind the bushes are very small, very scared, furry mammals. Sometimes one of them pokes its head quietly out of the bushes and then hides again. [To children with furry mammal puppets] Furry animals, where are you? Stick your head out. There you are.

Narrator: Next come the huge parasaurolophus, or duckbill, dinosaurs. They are big, heavy animals that walk like ducks on four legs. [To the children with the parasaurolophus adult puppets:] Can you walk like a duck with web feet with toes pointed out? [Narrator can demonstrate a duck walk.] The duckbill dinosaurs waddle over to the shallow water and walk to the small islands. Here they begin to build nests. They push the mud into a pile with their legs. They poke a hole in the middle with their heads.

Narrator: Out of sight, the raptors each roar once. [Motion for each child with a raptor puppet to roar.] The duckbill dinosaurs all look up. The diloph dinosaurs look up and open their mouths wide, showing their long sharp teeth. The tiny mammals peek out from behind the pine trees and make small squeaking noises. Luckily, the raptors are far away. The duckbill dinosaurs go back to building their nests. The diloph dinosaurs continue drinking water. The tiny mammals hide again.

Narrator: The duckbill dinosaurs put their eggs into the center of the nest. [Motion for the children with the egg puppets to put their "eggs" up.] With her strong back legs, the mother duckbill dinosaur pushes vegetation over the eggs. The parents then stand next to the nest, waiting.

Narrator: The diloph dinosaurs finish drinking. They walk over to the grass and stomp their muddy feet on the ground. They lie down on the sand and close their eyes. The hot sun beats down on their leathery skin, warming them. The diloph dinosaurs roll over on their backs, hold up their feet, and warm their stomachs. Ah, feels wonderful doesn't it?

Narrator: The mosquitoes fly over to the diloph dinosaurs and buzz over them. The dinosaurs swat lightly

at the mosquitoes. The mosquitoes fly over the duckbill dinosaurs and buzz around them. The duckbill dinosaurs shake their heads back and forth, and the mosquitoes fly away. [Motion to the children with the mosquito puppets to leave the stage.]

Narrator: Listen, what's that I hear? [Put your hand to your ear.] [To the children with the baby dinosaur puppets:] Babies in the eggs, tap your feet on the ground. [Narrator can demonstrate how to tap feet.] The duckbill dinosaurs look down at their eggs.

Narrator: The furry mammals peek out of the bushes at the eggs. The furry animals' noses twitch as they sniff the air. What's happening?

Narrator: The taps are louder and then sharp, high honks are heard from the nests. [To the children with the baby dinosaur puppets] Babies, let's hear you honk as you push your heads and bodies out of your eggs.

Babies: Honk, honk, honk.

Narrator: Good, babies. The big duckbill dinosaurs look into nests. What pretty babies they have. Look at the babies' big eyes and square noses. The babies look up at their mothers. They honk again. [Motion for the baby dinosaurs to honk.]

Babies: Honk, honk, honk.

Narrator: [To parent duckbill dinosaurs] Fathers, mothers, your babies are hungry. Go find plants and fruit for your babies. [Point the parent duckbills to the left corner of the stage where the berry bush is.] Look behind the berry bush for branches of leaves and berries.

Narrator: The pterodactyls can open their toothless mouths and make loud cawing noises. [To the pterodactyls:] Can you caw?

Pterodactyls: Caw. Caw.

Narrator: What good voices you have!

Narrator: The dilophosaurus dinosaurs stand up on their two back legs. They yawn and stretch their bodies. Then they run away. [Motion for them to leave the stage at the right corner.]

Narrator: A group of raptor dinosaurs run on two feet across the sand. They move very fast, jumping high off the ground as they run by the nests. Then suddenly they stop and sniff the air.

Narrator: [with finger to lips] Shush, babies, shush. Don't move. Get down into your nests. Furry little mammals - hide in the bushes. Quiet!

Narrator: The raptors slowly turn their head towards the nests. They each roar loudly once. The little furry mammals shiver behind the bushes. The pterodactyls stand up on their tiptoes and flap their wings at the raptors. The mosquitoes each buzz loudly once.

Narrator: Just then, the baby dinosaurs' parents return walking on four legs carrying branches to feed their babies. When they see the raptors, the duckbills drop their food and rear up on two back legs. They each make a loud noise like a trumpet. The raptors open their mouths and snarl, showing their teeth. The duckbill dinosaurs stomp one of their hind legs in the direction of the raptors. The raptors stop snarling. They are fast and strong, but there are too many duckbills. The raptors run away. [Motion for the children with the raptor dinosaurs to leave the stage to the right.]

Narrator: The duckbill parents pick the branches up again and go to their babies. The babies honk happily in high voices and nibble on the berries and leaves. The parents honk back in deep voices. The mice squeak.

Narrator: The pterodactyls fly around the nests, flapping their powerful wings. They swoop down over the water and snap up fish, gulping them down whole. The dilophosaurus dinosaurs return to drink at the water's edge and the mosquitoes circle around them. Far away, the raptors each roar once.

Narrator: This is the baby dinosaurs' first day in a world filled with caring parents, other dinosaurs, flying reptiles, fish, furry mammals, insects, and plants. What a wonderful day it is.

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