

Teacher's Guide



Dentist Bird: How Plover Bird Came to Clean Crocodile's Teeth

Background



Dentist Bird is based on *How Plover Bird Came to Clean Crocodile's Teeth*, a folktale from Liberia.

Liberia is a country in West Africa.

This folktale is about a sick crocodile who asks for help from the forest creatures around him. Most of them are too afraid to help, except for one brave and clever plover bird who uses her knowledge of making medicine to work out a deal with the crocodile!

Herodotus, the Greek traveler and historian, first wrote in the Fifth century BC that plover birds cleaned the teeth of the Nile River crocodile. The relationship between these two animals was widely held to be a classic example of animal symbiosis—where each provides benefits for the other.

It is probable that the legend of the crocodile and the plover bird was originally brought to Liberia in the 13th or 14th century AD by Islamic settlers.

This retelling is based on a picture book by Michael Richards with illustrations by Liberian artist, David Wolobah.

INTRODUCING THE APP

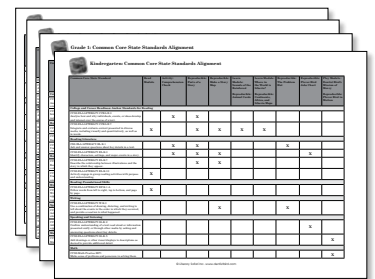
- **Read** an interactive picture book with embedded mini-games.
- **Play** the game *Dentist Bird's Mission of Mercy*. Take flight and overcome obstacles to deliver medicine to Crocodile!
- **Learn** by engaging in geography and science activities after reading the book.



STANDARDS

Dentist Bird supports the Common Core State Standards for Reading which recommend that K-5 texts come from “a broad range of cultures and periods and include children’s adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth.”

The activities in this guide support the 21st Century Learning Framework’s 4 C’s of education: Creativity, Critical Thinking, Communication, and Collaboration. They are also aligned to the Common Core State Standards for grades K-3.



Kindergarten - Grade 3 CCSS Alignment Charts

BEFORE READING

Preview Vocabulary

Create a word web of synonyms for these words from the story:

big (enormous, massive, gigantic)

bad (fearsome, unbearable, horrible)

You may also wish to share definitions of the following words that appear in the folktale:

- *companion* (friend)
- *curious* (the quality of wanting to know)
- *determined* (focused on or sure about)
- *immediate* (at once)
- *majestic* (grand, beautiful, or royal)
- *agreement* (deal)

READ THE STORY ⌚ 20 Mins

Have students read the interactive story *How Plover Bird Came to Clean Crocodile's Teeth* either in class or at home.





READ: Home Screen

At Home

Students can complete the “Read” section of the app as homework.

- *K-1: Listen and Read*

Turn on the  audio narration and  text features to support word recognition and reading skills.

- *Grades 2-3: Independent Reading*

Depending on students’ reading level, have them turn off the audio narration features and read to themselves.

In Class

Have students tap on the the “Read” button on the home screen. They can read alone, in pairs, or as a whole group.

- *Paired Reading*

Children take turns engaging with the interactive elements on each page and playing the mini-games on Screens 18-21.

- *Whole Group*

Project the story onto your interactive whiteboard and have children take turns interacting with each page.

AFTER READING

Review Key Ideas and Details

Check understanding of the text using the “Comprehension Check” handout. It includes sample answers for the following questions:

- Where does Crocodile live?
- Which forest creatures are worried about Crocodile?
- Why does wise Turtle offer to go find out what’s wrong with Crocodile?
- Why is Crocodile moaning?
- What reasons do the forest creatures give Turtle for not being able to help Crocodile?
- Why does Plover Bird want to help Crocodile?
- How does Plover Bird make the medicine?
- What deal do Plover Bird and Crocodile make? How does this help both of them?






Reproducible: Comprehension Check Answer Sheet

| Screen Number | Question | Answer |
|---------------|--|---|
| Screen 1 | Where does Crocodile live? | In a swampy area near a river. |
| Screen 2 | Which forest creatures are worried about Crocodile? | Turtle, Plover Bird, and other animals. |
| Screen 3 | Why does wise Turtle offer to go find out what’s wrong with Crocodile? | Because he is wise and wants to help. |
| Screen 4 | Why is Crocodile moaning? | Because he is in pain. |
| Screen 5 | What reasons do the forest creatures give Turtle for not being able to help Crocodile? | They are not strong enough. |
| Screen 6 | Why does Plover Bird want to help Crocodile? | Because he is kind and wants to help. |
| Screen 7 | How does Plover Bird make the medicine? | By using herbs and other natural ingredients. |
| Screen 8 | What deal do Plover Bird and Crocodile make? How does this help both of them? | Plover Bird cleans Crocodile’s teeth, and Crocodile gives Plover Bird food. |



Reproducible: Parts of a Story

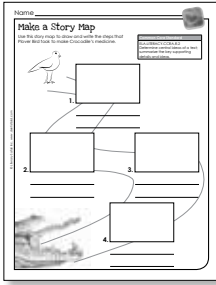
| Beginning | Middle | End |
|---|---|---|
|  |  |  |

Check Understanding

Have students make connections between the visual illustrations and story structure by identifying the beginning, middle, and end of the story using the “Parts of a Story” reproducible.

- *K-1:* Have students work in small groups to select, cut, and paste pictures in order, then match captions to the pictures.
- *Grades 2-3:* Have students work in small groups to complete the story map reproducible, working together to write detailed sentences that describe the scene in each image.

Reproducible:
Make a Story Map



Make a Story Map

Screens 18-21 of the “Read” section feature mini-games where students help Plover Bird collect the ingredients to make Crocodile’s medicine. These mini-games give readers game-based opportunities to recall specific plot details in this story.

- Using the Story Map reproducible, have students write or draw the specific steps Plover Bird took to make the medicine (*scrape tree bark with help of snail, collect red peppers, gather cotton seeds, collect ash*).
- Students can go back to Screens 18-21 to review this part of the story.

Make Real World Connections

Folktales are ideal teaching tools for starting conversations about morals and ethics, responsibility, and problem solving. Invite students to find similarities and differences between their social worlds and the characters in the story. Ask:

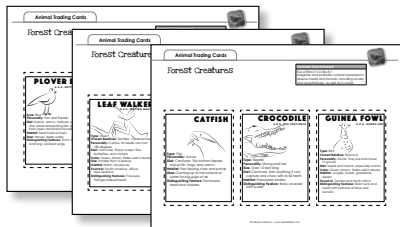
- Have you ever had a friend who was not behaving like his or her normal self, but you didn’t know why? How did it make you feel?
- The creatures of the forest don’t want to help Crocodile because they see him as someone who would hurt them. Is there a “Crocodile” in your life? Someone who you might be worried about but afraid to help?
- Why do you think Plover Bird wanted to help crocodile?
- What can Plover Bird teach us about helping others or being a good friend?
- What’s good about the deal that Plover Bird and Crocodile made? Have you ever made a deal with a friend?
- What is the moral or lesson from this story?



READ: Screen 10 shows all the forest animals gathered around discussing Crocodile.



LEARN: Sounds of the Rainforest

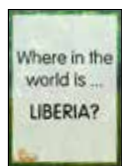


Reproducible:
Forest Creatures Trading Cards

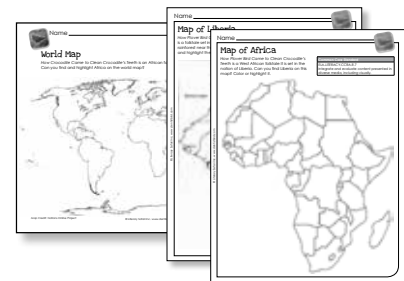
Science Connection: Learn about Animals and their Habitats

“Sounds of the Rainforest” is a matching game. Students match the sounds of the forest creatures (from the story) to reveal an animal “trading” card with fun facts. This activity checks understanding of the story and supports content-area learning about animals and their habitats.

- Project Screen 10 of the Read module on the interactive whiteboard and have students take turns tapping on each of the animals. They will hear the animal sounds for each creature as well as see their names on the screen. Talk about each animal and ask them what they know about these creatures.
- Check students recall of animal sounds by having them complete the “Sounds of the Rainforest” activity in the Learn module.
- Handout the reproducible “Forest Creatures.” It has animal trading cards that children can cut out and color.



LEARN: Where in the World is ... Liberia?



Reproducibles:
Continents, Africa, and Liberia Maps



PLAY: Dentist Bird's Mission of Mercy

Geography Connection: Learn about Setting

Though it is a fictional work, this folktale is set in a real place—the country of Liberia in West Africa. It offers an authentic opportunity to introduce children to a new part of the world.

- Have students complete the “Where in the World is ... Liberia?” activity in the Learn section. Students will interact with maps to learn about the continents, countries, and landmarks in the story.
- Hand out the map reproducibles and have children identify Africa, Liberia (and other West African countries), and the St. John River, where Crocodile lives.

ELA: Understanding Character

Plover Bird offers her knowledge of making medicine to the wise Turtle while the other creatures seem to think of themselves first. What does this show about her character and personality?

- Make a word web with Plover Bird in the middle and have students brainstorm words that describe Plover Bird’s character. These include *kind*, *brave*, *daring*, *curious*, *quick*, and *resourceful*.
- You could repeat this exercise for other main characters in the folktale, such as Crocodile and Turtle.

LEARN WITH GAMES

Dentist Bird’s Mission of Mercy is a narrative-inspired game. It challenges players to keep Plover Bird in flight, collect medicine, then feed it to Crocodile. During her journey through the rainforest, she encounters obstacles like monkeys throwing bananas, jungle vines, and a fast-moving river!

- *Small Group:* Have students work in pairs to take turns playing the game. The further they travel and the more medicine they are able to deliver to Crocodile, the more points they earn. Encourage them to help their partners if they are struggling, the way Plover Bird helped Crocodile.
- *Whole Group:* Pause gameplay at intervals to:
 - ▶ Discuss strategies for keeping Plover Bird in the air. What’s working? What’s not? (You might project the game onto the interactive whiteboard and have students take turns doing a show and tell.) In doing this, they are collaborating, communicating, and problem-solving, all skills that support the Common Core and the Framework for 21st Century Learning.
 - ▶ Have students physically act out the motion and movement of the game. What do they need to do to move Plover Bird and keep her in flight. What causes her to crash?
 - ▶ What changes need to be made in how the game is being played? Invite students to work together to figure it out, the way the forest animals came together to figure out what was wrong with Crocodile!

EXTENSION ACTIVITIES

Folktales offer multidisciplinary opportunities to extend learning. Here are some ideas for activities in different content areas.

Civic Responsibility

Plover Bird is the smallest of all the forest creatures, yet the kindest, the bravest and the most resourceful. She can serve as an example of positive qualities that children can show toward their classmates and in their community.

- Tell children that someone who is *resourceful* is able to deal well with new or difficult situations and to find solutions to problems. Ask: How is Plover Bird resourceful? (*Plover Bird is resourceful because she uses her knowledge of making medicine to not only help the crocodile, but to also help other plover birds.*)
- Share the classroom job description of Plover Bird with students and add the job of “Plover Bird” to your classroom’s daily or weekly jobs list.
- Every week, use the Plover Bird Job Chart to track and award rewards to students who demonstrate the most Plover-Bird like behavior in these categories: *Kind and Caring, Problem Solver, Good Manners, Peacemaker.*

Reproducibles: Plover Bird Classroom Job Description and Job Chart

Conflict Resolution: Identify Problems and Solutions

In Africa, stories were traditionally passed down orally. In Liberia, elders have long shared folktales with children in a palaver hut, a round structure with a thatched roof. It is a communal gathering spot in the village where elders and the village people come together to talk about common problems or settle conflicts. Palaver huts are also called peace huts. In Liberian English, *palava* is a verb. It means “to talk about or discuss.”

- Introduce children to the concept of a palaver hut. Then, have them sit in a circle for a “meeting” in a virtual palaver hut. In this seated format, you may:
 - ▶ Have children work together to identify solutions for some of the problems in this story. Some problem prompts you can give them: (a) Crocodile has a toothache. (b) Nobody wants to help Crocodile (c) Plover Bird likes to eat fish but is afraid of the water. They can use the “The Problem Hut” reproducible to write down the solutions they come up with.
 - ▶ Resolve a classroom conflict or settle a classroom dispute. For example, if the class as a whole can’t agree on something (where to go on a field trip) or two students need help with a disagreement (who gets a new crayon) they can use this format. You, the teacher, can play the role of the village elder and give each child an opportunity to respond to the problem and share their opinion of how to resolve it, steering the discussion to a solution.

Reproducible: The Problem Hut



READ: Screens 9 and 14 feature a traditional Liberian song.



READ: Screen 5 features the percussion sound of Leaf Walker's flexible neck turning

Music: Learn about Musical Instruments

The musical score for this app was composed by Steve Sandberg, an Emmy-award winning composer who has written music for the *Dora the Explorer*, *Go, Diego, Go!*, and *Dora and Friends* series. The music offers a valuable opportunity to discover the sounds and styles of a different country and culture.

- Instruments featured in the score include the mbira, also known as sanza or kalima, various pan-African sticks and shakers, the log drum, an electric guitar played in a West African style, and traditional vocals. Do a show and tell of the unique sounds that each instrument in the app makes. Have children pinpoint the sounds of the different instruments.
- Screens 9 and 14 also feature a traditional Liberian song. You might have children zoom in on the women and listen to the song and discuss the feeling that the song evokes. Then, you can play this video (<https://www.youtube.com/watch?v=SL2GfaMBIQk>) that shows Liberian women singing this song while cooking.

Music: Play the Drums

Drumming is a deep-rooted musical tradition of West Africa, including Liberia. The app offers a simple opportunity to play the drums.

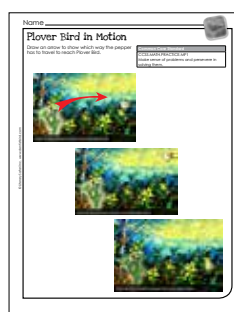
- Revisit Screen 5 of the “Read” section. The background of the page has built-in drumming sounds.
- Have students create their own percussion compositions. Record their compositions and create a classroom playlist.

STEM: Math and Physics

On Screen 19, readers have to launch red peppers in the air toward Plover Bird. If the trajectory of the pepper—shown by the arrow—is accurate, the pepper reaches Plover Bird. This is an opportunity to get children thinking about the physics principal of projectile motion—the motion of an object thrown or projected into the air at an angle.

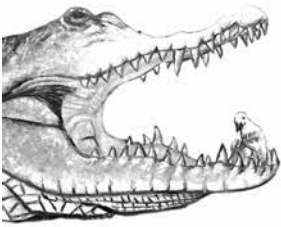
- Project the reproducible “Plover Bird in Motion” on your interactive whiteboard.
- Ask students to draw an arrow in the direction in which they have to launch the pepper in order for it to reach Plover Bird.
- Discuss as a group what that translates to in the game by bringing up Screen 19 and having children test out their theories and strategies for better aim.

Reproducible: Plover Bird in Motion



Health: Taking Care of My Body

Because Crocodile does not clean out the food that gets stuck in his teeth, he has swollen gums and a toothache. This theme in the story opens up a teaching moment for focusing on the cause and effect relationship between self-care and dental hygiene.



- Show students the video “Open Wide” (<https://www.youtube.com/watch?v=tuP5fAJoeW4>) which shows a bird cleaning a Crocodile’s teeth. Ask why they think the app is called “Dentist Bird,” then have them role play or talk about the steps of cleaning Crocodile’s teeth and compare that to their own self-care.
- Ask students to think about the health of Crocodile’s teeth. What caused his pain? What were the effects of his toothache? What was the solution for the pain? Then, have them make connections to their own lives. Ask: What are the different ways people can take care of their teeth? What kinds of problems can you have if you don’t take care of your teeth?



READ: Screen 14 shows a natural toothbrush

Research Project: On Screen 14, Crocodile watches jealously as a woman cleans her teeth with a natural toothbrush. “How I wish I could hold a branch like that. Then I would be able to clean my own teeth,” he cries. In many parts of the world, a natural toothbrush is fashioned out of twigs or branches. These are also called chew sticks. Have children research and create a timeline of dental hygiene and different tools used around the world to clean teeth.

PAIRED READINGS

Pair *How Plover Bird Came to Clean Crocodile’s Teeth* with one of these folktales from around the world for a deeper exploration of the themes of symbiosis, giving, teamwork, and resourcefulness.

The Lion and The Mouse

An Aesop fable in which an unlikely pair learn that kindness is never wasted. Jerry Pinkney’s wordless adaptation is set in the African Serengeti and invites children to engage in the art of narration.

Anansi the Spider Tales

Originating in Ghana, West Africa, Anansi is a wise and resourceful spider who, like Plover Bird, uses his cunning intelligence to prevail over larger animals. In Gerald McDermott’s Caldecott Honor Book, a spider threatened by Fish and Falcon is saved by the help of his sons.

The Little Red Hen

A folktale that teaches children a valuable lesson about teamwork. Adaptations and retellings abound.

The Enormous Turnip by Alexei Tolstoy

A Russian folktale where a family works together to pull a giant turnip out of the ground. Contemporary adaptation includes *The Enormous Carrot*, by Vladimir Vagin, where two rabbits enlist the help of some barnyard friends in their effort to pull a giant carrot out of the ground.

CREDITS: *Dentist Bird: How Plover Bird Came to Clean Crocodile’s Teeth* is based on a retelling by Michael Richards with illustrations by David Wolobah. Music: Steve Sandberg. Voiceover Narration: Soneela Nankani. Educational Consultant: Alexis Tuckfelt. Production Designer: Faith Su. Developer: Jason Schroeder. Publisher: Literary Safari.



Dentist Bird: Interactive Guide

Every page of the “Read” section of this app has an interactive spot. Tap, drag, or swipe it to bring the characters, setting, and action of this Liberian folktale to life!



Drag the page curl in the bottom corner to turn a page.



Screen 1: Drag **Crocodile** and help him climb up to land.



Screen 2: Tap **Crocodile** to hear him moan.



Screen 3: Slide **Guinea Fowl** to hear his call and watch him walk!



Screen 4: Tap **Leopard** to hear his mighty roar. Tap again to get a closer look at his face.



Screen 5: Tap **Leaf Walker's** head to make it turn. Tap the **background** to play the drums!



Screen 6: Tap **Monkey** to watch him somersault!



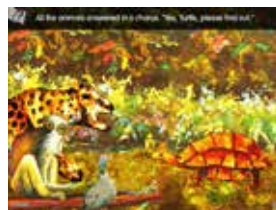
Screen 7: Touch **Snake** to listen to his fearsome hiss.



Screen 8: Drag **Catfish** up to help him emerge for a gulp of air.



Screen 9: Tap **Turtle's** shell to make her retreat. Tap the **swaying women** to hear a traditional Liberian song.



Screen 10: Tap each **forest creature** to read its name and listen to its unique sounds.



Screen 11: Tap **Crocodile** to look inside his mouth and see his diagnosis!



Screen 12: Tap the **dragonflies** to make them fly away. Tap **Crocodile** to hear his mighty moan!



Screen 13: Tap **Crocodile** and **Turtle** to advance the story.



Screen 14: Tap the **natural tooth brush** to help the village woman clean her teeth.



Screen 15: Tap **Leopard** to hear his opinion, then help him leave the forest clearing.



Screen 16: Move **Turtle** closer to **Leaf Walker** to watch him jump high!



Screen 17: Tap **Plover Bird** to hear her plan. Touch her to make her fly away.



Screen 18: Mini-game! Get points! Slide **Snail's sharp shell** against the tree trunk until it is white and clean. How fast can you do it?



Screen 19: Mini-game! Get points! Use your finger to reach back and aim **hot peppers** toward **Plover Bird**. How many can you collect?



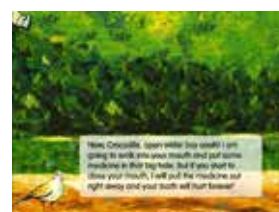
Screen 20: Tap the **log** to start the fire for **Plover Bird**!



Screen 21: Mini-game! Get points! Move **Plover Bird** left and right to collect the falling cotton seeds.



Screen 22: Move **Plover Bird** closer to **Crocodile**. Then, tap on the screen to advance the dialogue.



Screen 23: Mini-game! Get points! Move **Plover Bird** near **Crocodile**. Then, fix **Crocodile's** toothache!



Screen 24: Touch the three **plover birds** to watch them hop and chirp!



Tap on the "Achievements" button to view awards collected in mini-games.



Tap this button in the "Achievements" section to reset points for new users.