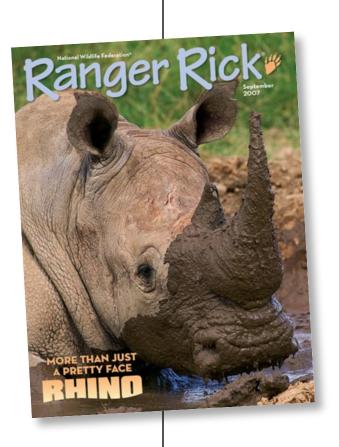
# Ranger Rick\*





This guide is designed to complement the September 2007 issue of National Wildlife Federation's Ranger Rick® magazine.





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Science & Language Arts

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# Welcome to the Ranger Rick Educator's Guide!

This guide provides you with educational activities to bring **National Wildlife Federation's** Ranger Rick® magazine alive in the classroom and beyond. Using Ranger Rick feature articles as an entry point, this guide engages students ages 7-12 in exploring the natural world to build literacy, critical and creative thinking skills, and understanding across the disciplines. Activities are correlated with the National Education Standards for science and language arts, and are designed to assist you in meeting required curriculum objectives.

# Can we have class outside today?

Find out how you can say "Yes!" at <u>www.nwf.org/backyard</u>. The outdoor environment offers excellent opportunities for active, hands-on, interdisciplinary learning. You can enhance the learning experience by creating your own habitat site. Revitalize an entire schoolyard, a garden, or even a rooftop, windowsill, or balcony by creating an outdoor classroom and sanctuary for birds, butterflies, and other wildlife.

#### How To Use This Guide

Each section of the guide is matched with a specific *Ranger Rick* feature. After you read through the magazine, choose the stories and activities that complement your curriculum and that will interest your students. Sections include:

- **Learning Links.** A summary of concepts presented in the article.
- **Discussion Questions and Writing Prompts.** Entry points to engage students in discussion or writing to develop literacy and thinking skills.
- **Resources.** Web sites and books where you can find further information.
- **Activity Ideas.** Quick investigations and extended projects to complement article topics.
- **Student Pages.** Ready-to-copy activity sheets for students.

We have also provided a Family Fun activities page for you to copy and send home with students.

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Special rate classroom subscriptions available.
Details at <a href="https://www.nwf.org/rangerrick">www.nwf.org/rangerrick</a>



# **Learning Links:**

The familiar monarch makes a good subject for a study of life cycles and metamorphosis and for close-up observation of behavior and habitat needs. At the same time, its life cycle includes an incredibly long (and still not fully understood) migratory journey.

## **DISCUSSION QUESTIONS & WRITING PROMPTS**

#### **Pre-Reading Questions:**

- Have you ever seen a monarch butterfly? If so, where?
- What questions do you have about monarchs?

#### **Comprehension Check:**

- What kind of animal is a monarch?
- What are the four stages in a monarch's life? Describe each stage.
- What does the caterpillar eat?
- How does milkweed help the monarch?
- What does the butterfly eat?
- What do monarchs do each fall? Why?
- Where do eastern monarchs migrate to? Western monarchs?
- What kind of place do they need to survive the winter?

- What do the butterflies do when spring comes?
- Which butterfly makes the next trip to Mexico?
- What are some problems facing monarchs today?
- What are people doing to help?

#### **Critical and Creative Thinking Connections:**

- Monarchs completely change as they metamorphose from caterpillar to butterfly. What if people changed that much from child to adult? How would our lives be different?
- What else does the word "monarch" mean? How do you think monarchs might have gotten their name?
- Why do monarchs need to lay their eggs on milkweed? What would happen if they chose another plant?
- Scientists still aren't sure how monarchs find their way during their migration. What do you think?

#### **RESOURCES**

**Monarch Butterfly** by Gail Gibbons (Holiday House, 1991). This bright, clear overview of the monarch's life cycle and migration includes instructions for raising caterpillars.

**Milkweed Visitors** by Mary Holland (Bas Relief Publishing Group, 2006). Photos and simple text introduce the large cast of characters that visit a milkweed patch.

**The World of the Monarch Butterfly** by Eric S. Grace (Sierra Club Books, 1997). While this is a book for adults, the photos are lovely and the information is organized in short sections, making this a good reference for students who want to delve deep.

Isabel's House of Butterflies by Tony Johnston (Gibbs Smith, 2005). This story about Isabel, who lives in Mexico near a butterfly sanctuary, sheds light on the complex problem of conserving monarch habitat. <a href="https://www.nwf.org/rangerrick">www.nwf.org/rangerrick</a> Visit the Ranger Rick Web site for links to the Web sites of groups that work on a variety of monarch projects, or see the links on the next page.

#### **ACTIVITY IDEAS**

#### Monarch Mania

Make copies of the <u>Monarch Mania student page</u> and have students answer the questions. Then, using what they learned in "Monarchs on the Move," have them design and draw a Monarch Waystation on the back of the page. Discuss the needs of monarchs (as larva and as adults) and ask students to explain how their Waystations would meet those needs.

TIME: 30 Minutes MATERIALS: Monarch Mania student page

#### **Monarch Travelog**

The monarch's migration is truly an amazing journey. Have students write an account of this trip. Ask them to pretend that it's late summer and they have just hatched from a monarch egg on the underside of a juicy milkweed leaf. In the form of a journal, have them record what happens as they progress through their life stages and begin the long adventure. Encourage them to include sensory details about how things look, feel, and taste. Spark their imaginations with examples of dramatic events they could include: wriggling out of the chrysalis and making a first flight; dodging from a hungry bird; joining millions of other butterflies in the overwintering area. Invite students to share their writing with the group.

TIME:
45 Minutes
MATERIALS:
Paper and pencils

#### Hands-On with Monarchs

If monarchs live in your area, you and your students have an excellent opportunity for hands-on observation and study. Here are several options:

- Invite monarchs to visit by planting a butterfly garden with milkweed and nectar plants. Go to <a href="www.monarchwatch.org">www.monarchwatch.org</a> for more information on creating an official Monarch Waystation. You can also find out how to participate in their monarch tagging efforts.
- Look for the nearest milkweed patch and see if you can spot any monarchs. If you find caterpillars, bring them back, feed them fresh milkweed each day, and keep them until they turn into butterflies. See the Resources section or visit your local library to find books on how to raise caterpillars properly.
- You can also raise caterpillars and engage students in research projects through the programs of Monarchs in the Classroom (monarchlab.org) and the Monarch Larva Monitoring Project (www.mlmp.org). Have students keep journals with notes and drawings of what they observe, create posters or presentations about their findings, and share their knowledge with parents or students from another class.
- Visit Journey North at <a href="www.learner.org/jnorth/monarch">www.learner.org/jnorth/monarch</a> to check out the annual migration map. Get updates on the monarchs' progress and, if you spot monarchs in your area, add your sightings to the map. You'll also find lots of other good resources for teaching about monarchs at this Web site.

TIME:
Variable
MATERIALS:
Internet access
Other supplies as needed



the boxes belo	ow, draw and label	eacn of the four	stages in a monar	cn s lije cycle.
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A/I I I		12		
Vhat does a m	onarch butterfly ea	it?		
	urney that monarch			
	to stop, rest, and ed tions" along the pa			
	r yard or schoolyar			
	_			

6. On the back of this page, make a map or drawing of your Waystation. Add labels that explain how each item you included would help monarchs that stop there.



# **Learning Links:**

Mangroves are interesting for their ability to survive in the challenging habitat where land meets sea. They're also tremendously important as a buffer from waves, as a filter for pollutants, and as a nursery for many fish and other coral reef animals.

#### **DISCUSSION QUESTIONS & WRITING PROMPTS**

#### **Pre-Reading Questions:**

- Describe the place where the land meets the sea.
- What might be some challenges faced by plants and animals that live there?

#### **Comprehension Check:**

- What is a mangrove tree?
- Where does it grow?
- What are some challenges it faces in its habitat?
- What are three important jobs mangrove roots do?
- How is a red mangrove's seed different from the seeds of most trees?
- Where in the world do mangrove forests exist?
- What do coral reefs do for mangroves?
- What do mangroves do for coral reefs?
- What makes a mangrove such a good habitat for animals?

- Describe a mangrove food chain.
- Why are many mangroves in trouble?
- When mangroves are destroyed, what happens to the land? To animals? To people?
- What is one way people are helping mangrove forests?

#### **Critical and Creative Thinking Connections:**

- One of the reasons why mangroves are so full of life is because they grow at the edge between two habitats. Can you think of other "edge" habitats? Are they good places for wildlife?
- How do people use the places where the land meets the sea? Do these uses conflict with the needs of mangroves?
- What would you tell people to help them understand the importance of mangroves?

#### **RESOURCES**

**The Sea, the Storm, and the Mangrove Tangle** by Lynne Cherry (Farrar, Straus, and Giroux, 2004). This beautifully illustrated story traces one mangrove through its long life, from seed to spreading tangle of branches sheltering many animals.

1

<u>www.mangroveactionproject.org/mangroves</u> Explore the Web site of the Mangrove Action Project for lots more facts about mangroves.

## **ACTIVITY IDEAS**

#### Mangrovography

Have students look at the map on page 25 and locate the mangroves. What do these places have in common? (They're all in or near the tropics.) What is the climate like in this region? (Warm all year long.) Next have students compare this map with a more detailed world map to figure out which countries have mangroves. Then provide students with resources to find out more about the mangroves in different regions. Groups of students could investigate mangroves in different places and prepare a presentation for the rest of the class on their findings. Some questions they might investigate include: What animals live there? How do people use the mangroves (individually or commercially)? How do the mangroves help or protect people and animals? What condition are the mangroves in? How are human activities hurting or helping them? Conclude with a discussion of how mangroves are similar and different around the world.

# TIME:

60 Minutes
MATERIALS:

Access to library/Internet to research mangroves

#### Life of a Mangrove

On page 23 of "Life on the Edge" are photos of several stages in the life cycle of a red mangrove tree. Using these photos and information in the text, have students draw a diagram of the complete life cycle of a red mangrove, from seed to full-grown tree producing seeds of its own. Have them add captions to their drawings to describe what is happening in each picture.

#### TIME:

30 Minutes
MATERIALS:
Drawing paper
Pencils, crayons,
colored pencils

#### **Mangrove Funnies**

Ask students what they think the two cartoon characters add to this story. What is their role? Why do they care about mangroves? Using these characters, have students create a comic strip about the lives of these mangrove creatures. They can invent some other characters based on the real animals they met in the story and give each character a name and personality. Encourage them to use what they learned about mangroves in Ranger Rick to add details and authenticity to the adventures they create.

#### TIME:

30 Minutes
MATERIALS:
Drawing paper
Pencils, crayons,
colored pencils

#### **Speaking for the Trees**

The cartoon fiddler crab and mudskipper characters in this story serve as "spokescreatures" for the mangroves. Because they live in the mangrove forest, they know the habitat well and care about what happens to it. Ask students to name some other important habitats, including some where you live. Have students (individually or in small groups) choose one of these habitats. Ask them to think of two animals that live there and could speak in support of the place. Then have them write some dialogue between these two characters. The conversation should describe the place, explain why it is important to these and other animals, and aim to persuade readers to take care of it. To extend the project, students could turn the dialogue into a skit or puppet show and perform it for the rest of the group.

#### TIME:

45 Minutes

MATERIALS:
Paper and pencils
Optional: Props for skits
or puppet shows



# **Learning Links:**

A huge, bulky frame, a horn (or two) on its nose, and a prehensile lip make the rhinoceros a fascinating creature. These and other adaptations also help the rhino to survive challenges posed by its habitat and human intervention.

#### **DISCUSSION QUESTIONS & WRITING PROMPTS**

#### **Pre-Reading Questions:**

- Look at the cover photo. What do you think this rhino is up to?
- Now read what it says on the cover. Do you think this rhino has a pretty face?
- How would you describe its face?

#### **Comprehension Check:**

- How many kinds of rhinos are there?
- What kind of rhino is Rambo?
- Where does Rambo live?
- What does the word "rhinoceros" mean?
- How do rhino horns differ from other mammals' horns?
- What is Rambo's mother like?
- How are black rhinos different from white rhinos?
- How big are white rhinos?
- What is a prehensile lip? What does Rambo use it for?

- Why do rhinos roll in mud?
- Why do oxpeckers follow rhinos around?

#### **Critical and Creative Thinking Connections:**

- Do you think Rambo is a good name for a rhino? Why or why not?
- How are rhinos built for power?
- Sometimes a group of rhinos is called a crash. How do you think people came up with that name?
- Hundreds of years go, when Marco Polo first saw a rhinoceros in Asia, he thought it was a unicorn. Look at the photo of the white rhinos on pages 34-35. How are white rhinos like unicorns? How are they different?
- What other animals might look like a unicorn if you viewed them from the side? Do you think this explains ancient unicorn sightings?

#### **RESOURCES**

**Search for the Black Rhino** (Apte, Inc., 1997). In this CD-ROM, students must access information from a simulated Web environment to help a research team locate a black rhino. A separate teacher's guide is available. <a href="https://www.rhinos-irf.org/index.htm">www.rhinos-irf.org/index.htm</a> The Web site of the International Rhino Exchange is an excellent source for information, links, and games about rhinos.

#### **ACTIVITY IDEAS**

#### **Summing Things Up**

Group students into pairs and have each partner take a turn being the teller and the listener. The first teller summarizes five cool things about rhinos that he or she learned from the Ranger Rick article, while the listener listens carefully. At the end of the telling, the listener may ask the teller questions in order to clear up any confusing parts. Then have partners switch roles. The "new" teller should explain five other cool rhino things from the article. After listening carefully to this summary, the "new" listener can ask a few questions.

TIME: 30 Minutes MATERIALS: "10 Cool Things About Rhinos" article

#### **Dear Rambo**

As a class, review the five elements of a friendly letter: heading, greeting, body, closing, and signature. Then ask students to write a friendly letter to Rambo Rhino, the author of "10 Cool Things About Rhinos." In their letters, students can introduce themselves to Rambo, tell him what they liked about his article, and ask him additional questions about rhinos. The **Dear Rambo student page** can help students plan their ideas.

TIME:
45 Minutes
MATERIALS:
Paper and pencils
Dear Rambo
student page

#### 10 Cool Things About . . .

Take the class outside and ask students to find (individually or in small groups) an animal to watch. Students should jot down what they observe about their animal's special features and behaviors. Later, have students use their notes to create a list of 10 cool things about their animal. They could do some research to supplement their notes with additional facts, too. Encourage students to include a few sentences about each item on their lists just as Rambo's article does.

TIME:
60 Minutes
MATERIALS:
Access to an outdoor
area with wildlife
Paper and pencils

#### See for Yourself

Black rhinos (like Rambo) may have the worst eyesight of any animal in Africa. Have a student volunteer (Student #1) come to the front of the classroom. Mark off 15 feet and ask a second student (Student #2) to stand there. Tell the class that if Student #2 were a rhino, he or she wouldn't be able to tell if Student #1 were a person, a bush, or another rhino. Now tell all the students to squint their eyes until they are almost closed. Ask: How would you like to walk around the African grasslands with eyesight like this? Why do you think black rhinos charge at so many things?

TIME: 10 Minutes MATERIALS: Tape measure

#### Do the Research

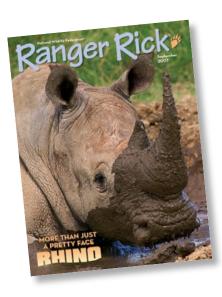
All five rhino species are endangered. Have students do some research to find out why. Encourage them to find out more about each rhino species, and have them use this information to compare the Asian rhinos with the African ones from the article.

TIME: 45-60 Minutes MATERIALS: Access to library/ Internet



**Directions:** Use the following outline to plan the body of a friendly letter to Rambo Rhino, the author of "10 Cool Things About Rhinos."

1. Introduce yourself. How would you describe yourself? What do you think Rambo would little to know about you?
<b>2.</b> Tell Rambo what you liked about his article. What are the three coolest things you learne from reading "10 Cool Things About Rhinos?"
3. Ask Rambo some questions. What are three things you want to know about rhinos?



# Ranger Rick\*

# Family Fun!

Dear Parent or Guardian,

Your child is reading Ranger Rick magazine in class. Each month, amazing photos, feature articles, and activities bring nature, wildlife, and conservation to life. You can extend the learning and fun at home with these engaging family activities.

#### NATURE'S ENCYCLOPEDIA

Want to know more about your favorite topics in *Ranger Rick*? Check out Glossopedia at <u>www.globio.org</u>. This online resource is a great place to find extra facts and photos, plus videos, sound clips, and more.

#### MIGRATION, MONARCHS, AND MILKWEED

Monarchs are amazing insects. Lucky for us, they're also quite common. Read about them in "Monarchs on the Move" (pages 6-13)—then see if you can spot some! Look for eggs, caterpillars, and butterflies. Set out the welcome mat by planting milkweed and nectar plants. To learn more about how to get involved in monarch projects, check out <a href="https://www.nwf.org/rangerrick">www.nwf.org/rangerrick</a> for links to some good Web sites.

## FIND A WILD ALPHABET

In "Wild Alphabet" (pages 18-20), you saw that it's possible to find letters in many of the patterns and objects of nature. Can you find your own wild alphabet? Start by flipping through this issue of Ranger Rick to see if you can find any letters in the other photos. Then head outside to a favorite wild place and hunt for letters there.

#### **BOOKMARK MICE**

Follow the instructions in "Bookmice" on page 21 to make your own bookmark mice. They'll be the perfect friends for back-to-school time!

#### DESERT DESTINATION

Have you ever been to a desert? You can meet lots of desert animals in this month's "Fun on the Run" games (pages 40-43). Which ones are your favorites? Which ones would you most like to see? Which desert is nearest to your home? Plan a trip—real or imaginary—and discuss what you'd like to see and do.