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Ranger Rick®



EDUCATOR'S GUIDE



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





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Introduction

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 www.nwf.org/backyard. 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.

Subscribe to *Ranger Rick*!
Special rate classroom subscriptions available.
Details at www.nwf.org/rangerrick

Life in the Flat Lane

pages 5-11

1



Learning Links:

Rays and skates have an unusual adaptation: a body shape that's as flat as a pancake. The advantages of this shape, and the other adaptations that help these flat fish survive, are the subject of this story.

DISCUSSION QUESTIONS & WRITING PROMPTS

Pre-Reading Questions:

- How would your life be different if you were flat?
- What might be some advantages of being flat? Disadvantages?

Comprehension Check:

- What kind of animal is Stanley? What species?
- Name three other species of rays or skates.
- How do rays breathe?
- How does a stingray "sting"?
- What's special about an electric ray?
- What are the closest relatives of rays and skates?
- Where do rays and skates live?
- Describe how rays and skates swim.
- Why is it an advantage for water animals to be dark on top and light underneath?

- What's the difference between rays and skates?
- How is being flat helpful when rays or skates hunt for food?
- Using the photos in this story, point out a ray's or skate's eyes, mouth, and nostrils.

Critical and Creative Thinking Connections:

- Rays and skates are related to sharks. How are they alike? How are they different?
- Now that you know more about "life in the flat lane," list some of the pros and cons of being flat.
- Why do you think the author of "Life in the Flat Lane" named the stingray Stanley? (Hint: Have you ever read a book called *Flat Stanley*?)

RESOURCES

Flat Stanley by Jeff Brown (Harper Trophy, 2003). This funny, classic children's book recounts the adventures of Stanley, a boy who happens to get flattened.

➤ www.flmnh.ufl.edu/fish/education/questions/RayBiology.html Here are some FAQs about rays and skates from the Florida Museum of Natural History.

➤ news.nationalgeographic.com/news/2006/09/060905-stingray-video.html Watch a video of swimming stingrays on this page from National Geographic News.

ACTIVITY IDEAS

My Life in the Flat Lane

Ask students to imagine how their lives would be different if they were as flat as a skate or ray. How would their new shape be useful? How might it cause trouble? Have them answer the questions on the [My Life in the Flat Lane student page](#). Then ask them to write a story that describes one day of life “in the flat lane.” Encourage them to add drawings and to share their finished stories with the group.

TIME:**60 Minutes****MATERIALS:**[My Life in the Flat Lane student page](#)**Flat Stanley Gets Fishy**

The Flat Stanley Project (www.flatstanleyproject.net) uses the book *Flat Stanley* by Jeff Brown as inspiration for a literacy-building activity. Students make cutouts of Stanley and send him to friends or relatives. (Being flat means being mailable!) The recipients include Stanley in their daily activities and then send him back with a letter about his adventures. Why not do something similar with a stingray Stanley? First read *Flat Stanley* aloud. Ask students to compare the book's main character with Stanley the Stingray. How does each one use his flat shape? Then have students draw their own Flat Stanley Stingrays and cut them out. They could mail the cutouts to others or simply take them along in their own daily activities. Suggest that students compile facts about stingrays to accompany their cutouts—as Stanley meets new people, he can then share information about his relatives. When each Stanley has accumulated some adventures, students can write stories and share them with the group.

TIME:**Variable****MATERIALS:**

Flat Stanley by Jeff Brown
Drawing paper
Crayons or markers
Scissors
Writing paper
Pencils

Batoid Art

The shapes, colors, and patterns of rays and skates lend themselves well to some creative expression. Here are two options for art projects:

Mobiles. Have students draw or paint cutouts of different kinds of skates and rays. They can decorate both sides of each cutout to show where the eyes, nostrils, and mouth are located. (Use the *Ranger Rick* story or other sources for inspiration.) Then hang the artwork from coat hangers or sticks to make colorful mobiles.

Kites. Have students design kites in the shape of different kinds of rays and skates. Then try them out. Which shapes “swim” through the sky best?

TIME:**60 Minutes or more****MATERIALS:**

Art supplies such as
markers, paints, tissue
paper, string, and
coat hangers

Eye-to-Eye View

Many aquariums include rays or skates in their exhibits. Plan a visit to check them out. Before you go, have students use the *Ranger Rick* story to make a list of what they want to observe. At the aquarium, encourage them to watch the rays and skates swim, take notes about their behavior, and sketch each species. Discuss their observations at the end of the visit.

TIME:**Variable****MATERIALS:**

Notebooks or
clipboards
Pencils



My Life in the Flat Lane

Part ONE. What would life be like for you if you were as flat as Stanley the Stingray? Answer the questions below.

1. If you were flat, what things would be easier? _____

2. What things would be harder? _____

3. What's something you can't do now that you could do if you were flat? _____

Part TWO. Use your answers to the questions above to help you write a story. On another piece of paper, describe one day of your life "in the flat lane."

Ringtail Roundup

pages 18-23

2



Learning Links:

Students learn how ring-tailed lemurs survive in the mountain forests of Madagascar, and especially how living in groups (called troops) pays off.

DISCUSSION QUESTIONS & WRITING PROMPTS

Pre-Reading Questions:

- Where is Madagascar? Point it out on a map.
- Use the map to look at Madagascar's physical characteristics. What kind of animals do you think live there? Why?

Comprehension Check:

- What kind of animal is a ring-tailed lemur?
- Where does it live?
- How would you describe its natural environment (or habitat)?
- What is a large group of lemurs called?
- Why do lemurs live in troops?
- How does a ring-tailed lemur use its tail to communicate?
- What are two other ways these lemurs communicate?
- Why do ring-tailed lemurs sunbathe in the morning?

- What do they eat?
- Why is grooming important to them? Give at least two reasons.
- What is a stink fight?
- How does a mother ring-tailed lemur take care of her baby?

Critical and Creative Thinking Connections:

- Why do you think ring-tailed lemurs live only in Madagascar?
- How do other animals use their tails to communicate?
- What other animals hang out in groups?
- Why do you think these animals stick together?
- Lemurs groom one another to keep the peace in their groups. What are some things people do to get along in groups?

RESOURCES

In Search of Lemurs by Joyce Ann Powzyk, (National Geographic Children's Books, 1998). Scientist/artist Powzyk gives children a diary-style account of her adventures with several species of lemurs in Madagascar's mountain forests. She illustrates the lemurs in beautiful watercolors.

➤ http://www.nationalgeographic.com/kids/creature_feature/0201/lemurs.html Get more facts about ring-tailed lemurs, listen to their calls, and watch a video of them in action.

➤ www.wildmadagascar.org Find out more about the geography, flora, fauna, and culture of Madagascar at this Web site.

ACTIVITY IDEAS

Picture This

Before distributing the November issue of *Ranger Rick*, ask students to close their eyes and picture an animal that looks like it is part monkey, part raccoon, and part cat. Now have students draw their imaginary animals on paper. When everyone is finished, encourage students to share their animal drawings with each other. Then tell them that they are going to read about a “real” animal that fits the description you gave them. Ask students to guess what that animal is. Distribute copies of *Ranger Rick* and confirm the animal's identity by guiding the class through a “picture walk” of the photographs in “Ringtail Roundup” on pages 18–23.

TIME:

20-25 Minutes

MATERIALS:

Paper

Markers or crayons

November 2007 issues
of *Ranger Rick*

By the Hour

After students have read the article, ask them to use what they have learned about ring-tailed lemurs to complete a daily schedule for a baby ring-tailed lemur. The schedule should provide an hourly booking of activities—from sunrise to sunset. The [Baby Lemur's Schedule student page](#) provides an easy-to-use format for students to follow.

TIME:

20-25 Minutes

MATERIALS:

[Baby Lemur's Schedule
student page](#)

Wild Cards

Besides ring-tailed lemurs, Madagascar is home to black lemurs, mongoose lemurs, brown lemurs, ruffed lemurs and many others! In fact, there are currently over 40 species of lemurs known. (See <http://en.wikipedia.org/wiki/Lemur> for a list.) Assign a different species to each student to research. Have each student use an index card to create a trading card that has a drawing of his or her lemur on one side and fast facts on the other. The facts could describe the lemur's habitat, size, coat, and diet. When the cards are completed, divide students into groups of two or three and have group members discuss how the lemurs on their cards are alike and how they are different. Have each group make a Venn diagram or chart that summarizes their findings. Collect the cards and make the deck accessible for students to read through during their free time.

TIME:

60 Minutes

MATERIALS:

Library or Internet access
Index cards

(one per student)

Crayons or markers

Paper and pencils

Group Dynamics

Challenge your students to find an opportunity to observe a group of animals of the same species, such as a flock of pigeons or crows, a colony of ants or bees, a school of fish, or a herd of deer. Suggest that students watch the animals from afar and take notes on how group members behave. Do they interact with each other? Do they communicate? (How?) Do they help each other? Encourage each observer to report his or her findings to the class. Then ask the class to compare and contrast these group behaviors with those of ring-tailed lemurs.

TIME:

Variable

MATERIALS:

Access to a group of
animals of the same
species

Paper and pencils



Baby Lemur's Schedule

Directions: What might a baby ring-tailed lemur be doing today?
Complete the daily planner page below so everyone will know.

HOUR:

ACTIVITY:

6:00 a.m.

Wake up in the treetops, snuggled next to Mom. Nudge Mom.

7:00 a.m.

8:00 a.m.

9:00 a.m.

10:00 a.m.

11:00 a.m.

Noon

1:00 p.m.

2:00 p.m.

3:00 p.m.

4:00 p.m.

5:00 p.m.

6:00 p.m.

7:00 p.m.

8:00 p.m.

Catch Me If You Can

pages 32-37

3



Learning Links:

What a harpy eagle does in the time between leaving its nest and starting a family is a mystery to scientists. In this story, readers learn how scientists capture a young eagle and attach a transmitter so they can track this unknown period.

DISCUSSION QUESTIONS AND WRITING PROMPTS

Pre-Reading Questions:

- Look at the photos in "Catch Me If You Can." What do you think this story is about?
- What do you think the title means?

Comprehension Check:

- Who is the "main character" in this story?
- What kind of bird is he?
- Where does he live?
- Describe Pacuyo's habitat.
- Why do the scientists in the article want to trap Pacuyo?
- Are they successful?

- What do they do once they have caught him?
- What do they hope will happen after they let him go?

Critical and Creative Thinking Connections:

- Putting a transmitter on Pacuyo is one way to learn about the "mystery years" in a harpy eagle's life. Can you think of any other ways scientists could find out more about that time?
- How was teamwork important to the scientists' success in catching Pacuyo?
- Do you think it's important for scientists to learn what harpy eagles do as they grow up? Why?

RESOURCES

- www.sandiegozoo.org/animalbytes/t-harpy_eagle.html Find more facts and photos of harpy eagles at the Web site of the San Diego Zoo.
- www.peregrinefund.org/explore_raptors/eagles/eaglmmain.html The Web site of the Peregrine Fund includes fact sheets on a number of different eagle species, including the harpy.

ACTIVITY IDEAS**Caught!**

"Catch Me If You Can" explains Pacuyo's capture from the point of view of the scientists who trapped him. Ask students how the story would be different if it were told from Pacuyo's point of view. Using the [Caught! student page](#), have students pretend to be Pacuyo and rewrite the story in his voice. Remind them that Pacuyo, as a baby bird, wouldn't know what the people are trying to do or why. When they finish writing, have students share their stories in pairs. Did telling the story from a different point of view make them think about it any differently? Ask them to discuss this question with their partners.

TIME:**45 Minutes****MATERIALS:**[Caught! student page](#)**Eyes for Eagles**

Along with harpy eagles, there are many other eagle species around the world. Have students undertake an eagle comparison project. Choose several other eagles in addition to the harpy (such as the bald eagle and golden eagle) and ask a small group of students to research each one. Then, using large sheets of butcher paper, have groups draw their eagle at life size (including wingspan), illustrate its habitat, and write in other facts they have discovered about it. For facts on various eagles, visit the Web site of the Peregrine Fund at www.peregrinefund.org/explore_raptors/eagles/eaglmmain.html.

TIME:**60 Minutes or more****MATERIALS:****Butcher paper
Markers****Tracking Humans**

The scientists in this story hope to learn how Pacuyo behaves as he grows up by tracking him with a radio transmitter. Ask students to imagine that another species wanted to learn about how *people* grow from kids into adults by putting a transmitter on them! Have students write a report or create a skit about what the transmitter would tell this other species about day-to-day life as a human child and what conclusions the other species might draw from what they learn. Humor is quite acceptable! But do ask students to consider what this exercise tells them about how scientists draw their conclusions. Do scientists have to be careful when they make assumptions about what a certain behavior means? How can they be sure their interpretation is correct?

TIME:**60 Minutes****MATERIALS:****Paper and pencils
OR
Props for skits****Bird Watch**

You won't have harpy eagles in your neighborhood, but surely there are other kinds of birds you could watch. Just as scientists hope to learn more about the behavior of harpy eagles from tracking Pacuyo, you can watch and learn from the behavior of more common species. Engage students in observing a chosen species, recording observations, and comparing notes as a group to draw some conclusions about the species' behavior. Alternatively (or in addition), you could invite a seasoned birdwatcher or bird-bander to talk to your group about what he or she does.

TIME:**Variable****MATERIALS:****Bird field guide
Notebooks and pencils**



Caught!

Directions: “Catch Me If You Can” is written from the perspective of the scientists who catch Pacuyo the harpy eagle. How would the story be different if Pacuyo told it? Pretend you are Pacuyo and write the story in his words. What does he see from his treetop nest? How does he feel? What does he think the scientists are doing? What does he do after they release him?



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.

AT THE MOVIES

Just for fun, plan an Animal Movie Night. Pick one of the top ten animal films listed in “The Buzz” on [page 13](#). Invite family, friends, and pets to the show. Enjoy the action and don’t forget the popcorn!

ART FROM JUNK

Did you see the amazing creations on [pages 24-28](#)? Can you believe they all came from trash? Why not try making a work of art from your family’s own recycled junk? If you do, send photos to *Ranger Rick*. (See the details under “Show Us!” on [page 4](#).)

WINTER WILDLIFE WATCHING

Winter’s coming and wild animals will be seeking out food and shelter. Try out a few of the ideas in “Warm Winter Welcome” on [page 30](#) to get your yard ready for winter wildlife. Then enjoy watching the visitors you attract!

TALES OF ARMORED ANIMALS

This month’s “Fun on the Run” games ([pages 39-42](#)) are all about animals with armor. Take a family poll: What is each person’s favorite armored animal? Why? Around the dinner table or before bedtime, make up a tale starring these favorite(s), with each family member taking a turn as storyteller as the action unfolds.

SIGNS OF LIFE

Have you ever seen animal signs like the ones in “Sign Off” on [page 43](#)? What wildlife might be featured on signs where you live? Have fun making some signs of your own and posting them around your house or yard to let people know what lives nearby.

For more interactive family fun, be sure to visit www.nwf.org/kids.

NATIONAL EDUCATION STANDARDS

NATIONAL SCIENCE EDUCATION STANDARDS

Science as Inquiry

- | | |
|-----|--|
| K-8 | Abilities necessary to do scientific inquiry |
| K-8 | Understandings about scientific inquiry |

Life Science

- | | |
|-----|--|
| K-4 | Characteristics of organisms |
| K-4 | Life cycles of organisms |
| K-4 | Organisms and environments |
| 5-8 | Structure and function in living systems |
| 5-8 | Reproduction and heredity |
| 5-8 | Regulation and behavior |
| 5-8 | Populations and ecosystems |
| 5-8 | Diversity and adaptations of organisms |

Earth & Space Science

- | | |
|-----|-------------------------------|
| K-4 | Properties of Earth materials |
| K-4 | Objects in the sky |
| K-4 | Changes in earth and sky |
| 5-8 | Structure of the Earth system |
| 5-8 | Earth's history |
| 5-8 | Earth in the solar system |

Science & Technology

- | | |
|-----|--|
| K-4 | Abilities to distinguish between natural and human objects |
| K-8 | Abilities of technological design |
| K-8 | Understanding about science and technology |

Science in Personal and Social Perspectives

- | | |
|-----|--|
| K-8 | Personal health |
| K-4 | Characteristics and changes in populations |
| K-4 | Types of resources |
| K-4 | Changes in environments |
| K-4 | Science and technology in local challenges |
| 5-8 | Populations, resources, and environments |
| 5-8 | Natural Hazards |
| 5-8 | Risks and benefits |
| 5-8 | Science and technology in society |

History and Nature of Science

- | | |
|-----|-----------------------------|
| K-8 | Science as a human endeavor |
| 5-8 | Nature of science |
| 5-8 | History of science |

ENGLISH LANGUAGE ARTS

- 1 Reading for perspective
- 2 Understanding the human experience
- 3 Evaluation strategies
- 4 Communications skills
- 5 Communications strategies
- 6 Applying knowledge
- 7 Evaluating data
- 8 Developing research skills
- 9 Understanding and respecting diversity
- 10 Developing English competency
- 11 Participating in literary communities
- 12 Using language for oneself

1 Rays & Skates
2 Lemurs
3 Harpy Eagle