

TEACHER'S GUIDE



Voyager (Grade 1)
Vol. 17 No. 5

In This Guide

In this guide, you will find language arts, science, and social studies lessons for the articles in this issue of *YOUNG EXPLORER VOYAGER*.

Young Explorer Magazine

YOUNG EXPLORER classroom magazines for kindergarten and grade 1 develop young readers' literacy skills through engaging informational text. Great storytelling and stunning photographs teach students about our planet and the people, plants, and animals that live on it. Encourage your students to read and explore our world with *YOUNG EXPLORER* magazines.

Voyager

The Voyager edition is written for first grade readers. All articles in the Voyager edition have been measured using the Lexile® Framework for Reading. Some articles will be easier to read than others, though all articles will be within the 190-400L range.

Visit *YOUNG EXPLORER*'s website, NatGeo.org/explorermagazine, to find additional resources for extending your students' learning.

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National Geographic Learning Framework

INTRODUCTION

BACKGROUND

Since 1888, the National Geographic Society has funded scientists and explorers and shared their findings with the world. To support educators who use our resources, we have created a Learning Framework, which lays out what we believe students should learn from their experiences with the Society.

PURPOSE

The Learning Framework was designed to convey the Society's core beliefs and values. It is built around a set of attitudes, skills, and knowledge that embody the explorer mindset.

To determine the learning outcomes within the Learning Framework, we dug deep into national standards in key subject areas. We also sought advice from subject matter and child development experts, along with the combined expertise of NG instructional designers, researchers, and content developers. To learn more, go to: <https://www.nationalgeographic.org/education/learningframework/>

IMPLEMENTATION

Each article in this magazine has a knowledge-based link to the Learning Framework. Students will use the skills and attitudes as they do the activity on the back cover. The activity relates to the article "Saving Cranes."

MINDSET OF AN EXPLORER

KEY FOCUS AREAS



Attitudes

National Geographic kids are:

CURIIOUS about how the world works, seeking out new and challenging experiences throughout their lives.

RESPONSIBLE, with concern for the welfare of other people, cultural resources, and the natural world. NG kids are respectful, considering multiple perspectives, and honoring others regardless of differences.

EMPOWERED to make a difference. NG kids act on curiosity, respect, and responsibility. They are adventurous and persist in the face of challenges.



Skills

National Geographic kids can:

OBSERVE and document the world around them and make sense of those observations.

COMMUNICATE experiences and ideas effectively through language and media. They are storytellers!

COLLABORATE with others to achieve goals.

SOLVE PROBLEMS by generating, evaluating, and implementing solutions after identifying alternatives, weighing trade-offs, and making well-reasoned decisions.



Knowledge

National Geographic kids understand:

THE HUMAN JOURNEY is all about where we have been, where we live now (and why), and where we are going.

OUR CHANGING PLANET encompasses all that coexists on our planet—interconnected through systems that generate and nurture each other.

WILDLIFE AND WILD PLACES inhabit our planet—from the butterflies in our back yards to the lions in Africa.

Objective

- Students will ask and answer questions about key details in a text.
- Students will use adjectives to describe how dogs differ.

Standard Supported

- **CCSS Reading Informational Text:** Ask and answer questions about key details in a text. (1-1)
- **CCSS Language Standards:** Use frequently occurring adjectives. (1-1f)

Resources

- Language Arts Master (page 5)

Summary

Dogs sound different, and they look different, too. Dogs differ in many ways. They come in many shapes and sizes. They also have different snout shapes and have different coats and different lengths and textures of fur.

WORD WORK

Sight Words: *some, of, them*

BUILD VOCABULARY AND CONCEPTS

- different
- shape
- size
- snout
- coat
- pattern
- fur

The words above are used in the article and some may be new to students. Pronounce the words and ask students to talk about the words they know, and as a class come up with student-friendly definitions for each word that you can post on the word wall. Tell students they will be adding more information about each word, such as drawings, photos, and descriptions, as they learn more. Let students know they will be learning about how dogs differ, or are different from one another. Ask students to listen for the vocabulary words as you read the article.

READ AND DISCUSS

Read the article “Dogs Differ” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 2–3 Read the title and text. Ask students: **How does the text say dogs differ?** (*They sound and look different, and they come in many shapes and sizes. Dogs are different in many ways.*) Ask students if they know of some ways dogs are different. You might have them look at the pictures on pages 2 and 3 and describe how the dogs pictured are different from one another.

Pages 4–5 Read the text. Ask: **What are some ways we learned that dogs can be different from one another?** (*Dogs can be different sizes: some are big and tall; others can be short and small. Dogs can also have different snout shapes.*) Have students look at the pictures of the dogs on pages 4 and 5 and use adjectives to describe those dogs.

Pages 6–7 Read the text. Ask: **What are some other ways we learned that dogs can be different from one another?** (*Dogs can have coats with different patterns, with patches or spots. They can also have long, short, or curly fur.*) Have students look at the pictures of the dogs on pages 6 and 7 and use adjectives to describe those dogs.

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about what you learned about how dogs differ.**
- **Draw or write something you learned about the ways dogs can differ.**

Objective

- Students will understand that dogs are recognizable as similar but can vary in many ways.

Standard Supported

- **NGSS LS3.B: Variation of Traits:** Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)

Resources

- Wild Dog and Pet Dog poster (Teacher's Edition)
- Science Master (page 6)

Science Background

Dogs are all part of the same species, but there are many different breeds and mixed breeds. There are large dogs, small dogs, and many sizes in between. Dogs of the same breed can look very much alike, but they can also vary in appearance. For example, all Great Danes are large dogs with similar features and smooth, short coats. However, their coats can vary in color. Some small dogs, such as Chihuahuas, dachshunds, and Yorkshire terriers may be similar in size and weight, but they vary from one another in many ways, including shape of snout, length of body and legs, length and texture of fur, length of tail, and shape and positioning of ears. In addition to variation in appearance, different breeds can also vary in behavior, temperament, and activity level.

ENGAGE

Students will know what dogs are, and many students may have a dog as a pet. Initiate a discussion about dogs, and have students who have dogs as pets talk about their dogs. Students who don't have a pet dog may want to talk about a dog a relative has or a familiar dog in their neighborhood.

EXPLORE

Have students continue the discussion about their dogs in more detail. Ask the following questions.

- **How big or small is your dog?**
- **What color of fur does your dog have?**
- **What kind of dog is it?**

EXPLAIN

After reading, have students turn and talk with a partner to tell about the ways they learned that dogs can differ.

- Dogs sound different.
- Dogs have different shapes.
- Dogs come in different sizes.
- Dogs can be big and tall.
- Dogs can be short and small.
- Dogs can have short snouts or long snouts.
- Dogs coats can have different patterns, such as patches or spots.
- Dogs can have long, short, or curly fur.

Then have students consider the discussion they had about their own dogs or dogs they know. You might want to have students draw a picture of their dog or a dog they know, and then have them move into groups that fit the categories shown below. Students will need to move into new groups for each category. Each time they move, ask students to discuss their dogs and how their dogs are similar to and different from the others in the group.

- small or large dogs
- short snout or long snout
- patches, spots, or one-color coat
- long, short, or curly fur

Students may want to come up with other categories of groups to move into that distinguish a dog's appearance, such as type of tail, type of ears, and so on.

ELABORATE

Display the Wild Dog and Pet Dog poster. Read the text on the poster and the labels that tell what each picture is. You may want to have a discussion with students, or as a class create a chart that tells how each animal pictured looks similar to or different from a pet dog.

EVALUATE

Assess students' understanding with the Science Master for this article. You might also use the following prompts.

- **What is one way dogs can differ?**
- **Describe how dogs' coats can be different.**

LANGUAGE ARTS: Adjective Word Search

Find and circle the words that describe dogs.

big

tall

short

small

long

curly

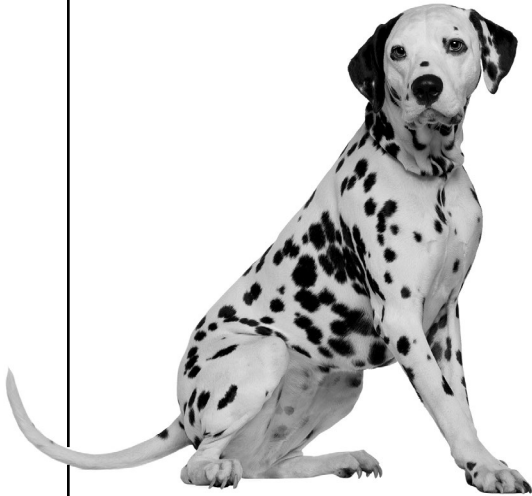
w v i d s b i g x
 b w l z i q n d y
 g s q t a l l a c
 n h v e s d o r n
 t o s i m o n p s
 u r i p a a g u r
 d t s w l e u z l
 t c u r l y t m c



Use two words from the Word Bank to describe this dog.

SCIENCE: Dogs are Different

Meet the dogs. Then circle the correct answers.



This is Rosie.
She likes to dig holes.



This is Jake.
He likes to play catch.



This is Sam.
He likes to bark.

1. Which dog has a short snout? (Rosie) (Jake) (Sam)
2. Which dog is biggest? (Rosie) (Jake) (Sam)
3. Which dog has spots? (Rosie) (Jake) (Sam)
4. Which dog likes to bark? (Rosie) (Jake) (Sam)
5. Which dog has long fur? (Rosie) (Jake) (Sam)

Objective

- Students will use pictures and details to describe key ideas.

Standard Supported

- **CCSS Reading Informational Text:** Use illustrations and details in a text to describe its key ideas. (1-7)

Resources

- Language Arts Master (page 9)

Summary

There are many ways to find out what the weather will be like each day, so you can prepare for the weather. You can check a newspaper, TV, or app. The weather reports say the weather will be windy, snowy, and stormy.

WORD WORK

Sight Words: *give, when*

BUILD VOCABULARY AND CONCEPTS

- **get ready**
- **weather**
- **windy**
- **snowing**
- **storm**
- **thunder**

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Pronounce the words for students. Together with students, talk about what weather is. Ask students which of the other words in the vocabulary list are examples of weather. Then talk with students about what it means to get ready for something. Ask the following questions:

- **How might you get ready for windy weather?**
- **How might you get ready when it is snowing?**
- **How might you get ready when there is a storm?**

READ AND DISCUSS

Read the article “Ready for Weather” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 8–9 Read the title and text on pages 8 and 9. Then ask: **What does a weather scientist do?** (*She studies weather and tells people what the weather will be like.*) **How can you find out what the weather will be like today?** (*You can check a newspaper, TV, or an app.*) **What can checking on the weather do?** (*It can help you get ready so you will know what to wear.*) **What kind of weather does the picture show?** (*rainy*) **Is the child in the picture ready for rainy weather?** (*yes*)

Pages 10–11 Read the text. Ask: **What is the way to check the weather that is mentioned here?** (*a newspaper weather chart*) Ask students to look at the picture of the weather chart and describe the information it shows. (*It shows what the weather will be like and the temperatures for today and tomorrow.*) **What does the text tell us a windy day is good for?** (*flying a kite*)

Pages 12–13 Read the text. Ask: **What is the way to check the weather that is mentioned here?** (*a TV weather forecast*) Ask students to look at the picture of the TV weather forecast and describe the information it shows. (*It shows what the weather will be like for three days.*) Ask students to look at the picture and tell what the weather is like in the picture. (*snowing*) **Does it match the TV weather forecast?** (*yes*)

Pages 14–15 Read the text. Ask: **What is the way to check the weather that is mentioned here?** (*a weather app*) Ask students to look at the picture of the weather app and describe the information it shows. (*It shows what the weather will be like today.*) Ask: **What will the weather be like?** (*stormy*) **What does the text say you should do when a storm is coming?** (*stay indoors*) **How does the picture match the text?** (*It shows a woman indoors on a stormy day.*)

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about what you learned about getting ready for weather.**
- **Draw or write something you learned about weather.**

SCIENCE

Objective

- Students will learn that scientists forecast weather so people can get ready for the weather.

Standard Supported

- **NGSS Crosscutting Concepts: Patterns:** Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2), (1-LS3-1)

Resources

- Severe Weather poster (Teacher's Edition)
- Science Master (page 10)

Science Background

Sometimes the terms *weather* and *climate* are used interchangeably, but weather and climate are different. Weather refers to the state of the atmosphere during a shorter time period in a given place. Weather changes each day and throughout the day. Climate refers to the average type of weather in a larger area, such as a region, country, or continent, over an extended period of time.

Some components, or parts, of weather include temperature, atmospheric pressure, wind, humidity, precipitation, and cloudiness.

ENGAGE

Talk with students about the weather. You might ask the following questions:

- **What is the weather like today?**
- **What was the weather like yesterday?**
- **What do you think the weather will be like tomorrow?**

EXPLORE

With students, explore what they can do in different types of weather.

- **What can you do on a windy day?**
- **What can you do on a sunny day?**
- **What can you do on a rainy day?**
- **What can you do on a snowy day?**

EXPLAIN

Ask students to explain what they learned about weather and why it is important to know what the weather will be like each day. Use the following sentence starters to guide the discussion.

- A weather scientist is someone who _____.
- Some ways to find out about the weather are _____.
- It is important to know what the weather is today because _____.
- When the weather is windy you can _____.
- When it is snowing, you should wear _____.
- When it is storming, you should stay _____.

ELABORATE

Read through the Severe Weather poster with students so they can learn about different types of severe weather. Have students look at each of the pictures as you read about each type of weather. Then have them describe what they see in the pictures. Depending on the weather in the area in which you live, students may be familiar with some of these types of severe weather. Talk with them about why it is important to learn about severe weather and what you can do to be prepared for it.

EVALUATE

Assess students' understanding with the Science Master for this article. You might also use the following prompts.

- **What are some ways to find out about the weather?**
- **Why is it important to know what the weather is each day?**

LANGUAGE ARTS: Weather Words

Use the words in the Word Bank to complete the sentences.

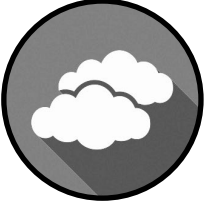


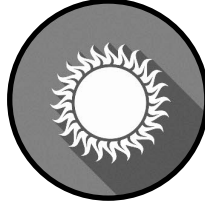

snowy	stormy	sunny	windy
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1. I can fly my kite.
Today is _____.
2. It is warm and bright.
Today is _____.
3. It is cold and snowing.
Today is _____.
4. I hear thunder and see lightning.
Today is _____.

Write a sentence that tells what the weather is like today.

SCIENCE: Weather Wise

Use the chart to answer the questions.

<p>Monday</p>  <p>cloudy</p>	<p>Tuesday</p>  <p>windy</p>	<p>Wednesday</p>  <p>rainy</p>	<p>Thursday</p>  <p>sunny</p>	<p>Friday</p>  <p>stormy</p>
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1. What will the weather be on Monday? _____
2. What will the weather be on Thursday? _____
3. Which day will be best for flying a kite? _____
4. Which day should you stay indoors? _____
5. Which day will you need an umbrella? _____
6. Which day should you wear sunglasses? _____

Draw lines to match the words to the symbols.

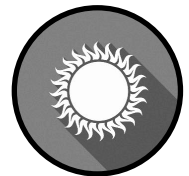
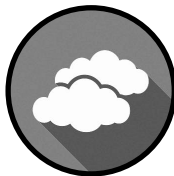
windy

sunny

snowy

stormy

cloudy



Objective

- Students will produce and expand sentences.

Standard Supported

- **CCSS Language Standards:** Produce and expand complete, simple, and compound sentences in response to prompts. (1-1j)

Resources

- Language Arts Master (page 13)

Summary

Dr. Olivier Nsengimana is an animal doctor in Africa who helps save cranes. Cranes are big, beautiful birds that live in the wild. There aren't many wild cranes left. Their habitat has been taken over by people. People also sell chicks as pets, but cranes are not happy as pets. Nsengimana works with other people to help pet cranes live in the wild again. He also works with children to teach them about cranes.

WORD WORK

Sight Words: *were, live, take, over, from, as, think, again*

BUILD VOCABULARY AND CONCEPTS

- **Africa**
- **wetlands**
- **animal doctor**
- **habitat**
- **wild cranes**

The words above are used in the article "Saving Cranes." Do a picture walk through the article to point out Dr. Nsengimana and the cranes. Post the words on a classroom word wall. Refer to the word wall throughout discussion of the article, and, as you read and learn about Dr. Nsengimana's work and the cranes, add more information and pictures to the word wall.

READ AND DISCUSS

Read the article "Saving Cranes" aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 16–17 Read the title and the byline. Say: **Point to the picture of the man who wrote this article.** (*Students should point to Olivier Nsengimana, who is pictured on page*

17.) Let students know what his name is as you point out the byline again. Ask: **What words let us know that he wrote the article?** (*the words by and I*) **What do we learn about the author?** (*He grew up in Rwanda, Africa. He is an animal doctor. As a kid, he saw wild cranes.*)

Pages 18–19 Read the text. Ask: **What do we learn about wild cranes?** (*They are hard to find; not many are left. People have taken over their wetland habitat.*) Ask students to look at the pictures of the cranes on pages 18 and 19 and complete and expand these sentences. Work with students to help them describe the cranes and their unique features. Also, ask students to write their own sentences about cranes.

- Cranes are big birds. Their wings are _____, and their legs are _____.
- A crane's head has different colors. Those colors are _____.
- Other things we can say about cranes are _____.

Pages 20–21 Read the text. Ask: **What else do we learn about cranes on these pages?** (*People take crane eggs and chicks and sell the chicks as pets. Cranes are not happy as pets.*) **What do we find out Dr. Nsengimana does?** (*He works with other people to help pet cranes live in the wild again.*) Have students look at the pictures on page 21 and complete and expand these sentences. Guide students to infer what might be happening in these pictures, based on the text. Also ask students to write their own sentences.

- In the top picture, Dr. Nsengimana is _____.
- In the bottom picture, the people are _____.

Pages 22–23 Read the text. Ask students to discuss what else they learned about Dr. Nsengimana. (*He teaches children that cranes need to live in the wild. He works with many people, and they all help cranes. He also wrote a book about cranes.*)

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about Dr. Nsengimana and the wild cranes.**
- **Draw or write something you learned about wild cranes.**

SCIENCE & LEARNING FRAMEWORK

Objective

- Students will learn that collaboration is one of the skills an explorer uses to achieve a goal.

Learning Framework Key Focus Area

- **Skills:** *National Geographic kids can:* COLLABORATE with others to achieve goals.

Resources

- Learning Framework Master (page 14)

Science Background

Grey crowned cranes are large birds, with males being slightly larger than females. Cranes are about 3 feet in height and weigh nearly 8 pounds. Their wing span is approximately 6.5 feet. These cranes have long legs for wading through tall wetland grasses as they forage for food. Grey crowned cranes are omnivores, which means they eat both plants and animals. Much of their diet consists of tips of grasses, seeds, groundnuts, insects, other invertebrates, and small vertebrates. These cranes have a lifespan in the wild of about 22 years.

ENGAGE

Engage students by talking about what it means to work together to make something happen or to achieve a goal. Ask students to talk about a time they worked with someone else or a group to make something happen. There might even be a project or activity you did together as a class that you could discuss and reflect on.

EXPLORE

Explore more about what it means to collaborate, or work together. Work with students to create a list of the advantages of working together to achieve a goal. Below are examples of a few advantages.

- Working together is more fun.
- Working together helps us get things done faster.
- More people means more ideas about how to get things done.
- Different people have different strengths, so we can divide the work and have people work on things they are good at and like to do.

EXPLAIN

Ask students to explain what Dr. Nsengimana does and how he works with others to help the cranes. Help students to make inferences about what they read, based on the text and the pictures in the article.

- Dr. Nsengimana is an animal doctor who grew up in Rwanda, Africa.
- He saw wild cranes as a kid, but today they are hard to find.
- The wild cranes' habitat has been taken over by people.
- People take the cranes' eggs and chicks from the wild and sell the chicks as pets.
- Cranes are not happy as pets.
- Dr. Nsengimana wants to help cranes live in the wild again.
- He teaches children, so they can learn about how cranes need to live in the wild.
- Dr. Nsengimana works with many people to help the cranes.
- He wrote a book about cranes, too.

Ask students to talk about why Dr. Nsengimana would want to write about cranes and teach children about cranes. Lead them to understand that the more people know about the cranes, the more they may want to help them.

ELABORATE

Extend Your Thinking

As a class, discuss how teamwork helps people protect cranes in Rwanda. Then display the image of ants on the back cover of the magazine. Discuss what the ants are doing and how teamwork helps them get the job done. Inform students that cooperation is an essential part of nature. Many jobs are too big for one person or one animal to finish alone. Provide an assortment of magazines. Instruct students to look through the magazines to find a photo of people or animals working together. Invite students to show and tell about their pictures in small groups.

EVALUATE

Assess students' understanding with the Learning Framework Master for this article. You might also use the following prompts.

- **What does Dr. Nsengimana do to help the cranes?**
- **How does Dr. Nsengimana work with others?**

LANGUAGE ARTS: Wild Crane Facts

Find out more about cranes.

Circle the correct answer.

- Grey crowned cranes eat plants and animals.
- They are about 3 feet high.
- They weigh about 8 pounds.
- Their crown is yellow.
The crown is stiff feathers.



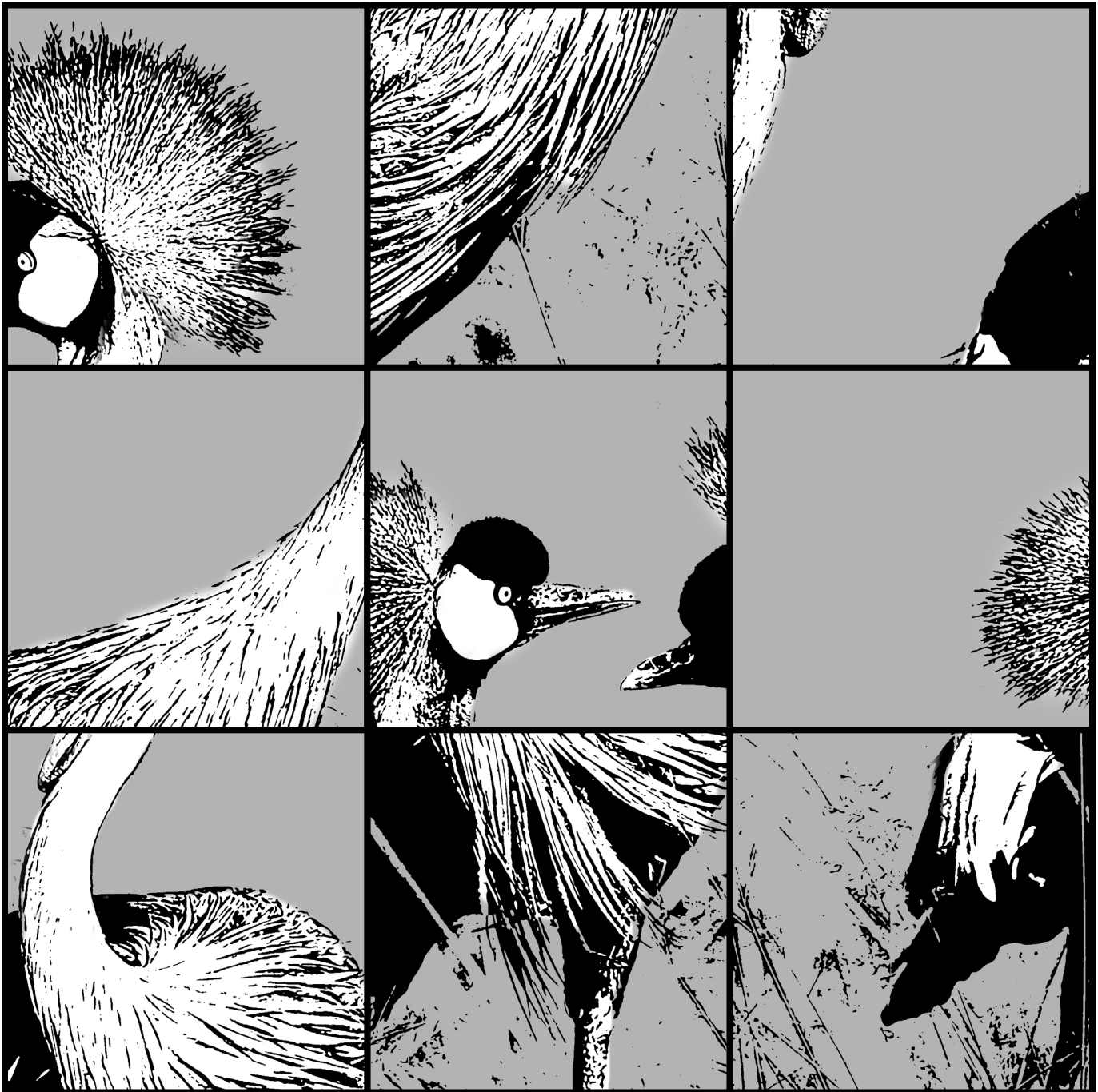
1. What color is a crane's crown? (red) (yellow) (white)
2. What does the crane eat? (plants) (animals) (both)
3. How tall is a crane? (3 feet) (2 feet) (5 feet)

LEARNING FRAMEWORK: Collaboration

Cut out the puzzle pieces.

Work with a partner to put the pieces in the right order.

Then talk about how you worked together.



ANSWER KEY

Dogs Differ

Language Arts: Adjective Word Search, page 5

Students should find and circle the following words in the puzzle: big, tall, short, small, long, curly.

Science: Dogs are Different, page 6

Students should circle the correct answers.

1. Sam
2. Jake
3. Rosie
4. Sam
5. Jake

Ready for Weather

Language Arts: Weather Words page 9

Students should write the words to complete the sentences and then write a sentence that tells about today's weather.

1. windy
2. sunny
3. snowy
4. stormy

Science: Weather Wise, page 10

Students should use the chart to answer the questions. Then students should draw lines to match the words to the symbols.

1. cloudy
2. sunny
3. Tuesday
4. Friday
5. Wednesday (or Friday)
6. Thursday

windy > windy weather symbol
sunny > sunny weather symbol
snowy > snowy weather symbol
stormy > stormy weather symbol
cloudy > cloudy weather symbol

Saving Cranes

Language Arts: Wild Crane Facts, page 13

Students should circle the correct answers.

1. yellow
2. both
3. 3 feet

Learning Framework: Collaboration, page 14

Students should cut out the puzzle pieces and work with a partner to put the puzzle pieces in the right order. Then students should talk about how they worked together. .