



Dear Teachers,

The New York State Museum is happy to present you with this free interactive reading guide to our new exhibit, *The Passenger Pigeon: From Billions to Zero*. Attached you will find the student reading and an interactive reading exercise to use with your students in the classroom, perhaps used in combination with a visit to the museum to see the exhibit.

This classroom activity can be used as a Living Environment or English Language Arts lesson and is appropriate for Grades 6–12.

COMMON CORE LEARNING STANDARDS:

Standards for Literacy in Science

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Knowledge of Language: Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.

Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Writing: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Standard 10; Informational Text: Literary Nonfiction. P.70

NYS ELA LEARNING STANDARDS:

Listening and reading to acquire information and understanding involves collecting data, facts, and ideas; discovering relationships, concepts, and generalizations; and using knowledge from oral, written, and electronic sources.

Speaking and Writing: to acquire and transmit information requires asking probing and clarifying questions, interpreting information in one's own words, applying information from one context to another, and presenting the information and interpretation clearly, concisely, and comprehensibly.

Living Environment Standard 4, Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.



Guided Reading Exercise

Students can work in pairs for this exercise. Provide each student with their own copy of the reading, *The Passenger Pigeon: From Billions to Zero*, and a copy of the **Interactive Reading Guide**.

Demonstrate at the board how to summarize. Choose a student to read aloud and discuss what a summary is using the chart below. (You can re-create the chart on the board.)

Page 1 of Reading

After reading the Audubon quote, have the students draw a flock of passenger pigeons on a separate piece of paper and explain which components of the text helped them to visualize the flock. For the text after the title, ask how the writer draws the reader in to reading the rest of the article.

Pages 2, 3, and 5 of Reading

Have the students use the interactive Reading Guide in pairs. Circulate and check for understanding.

Use this chart to help students understand the difference between summarizing, retelling and paraphrasing.

Retelling	Paraphrasing	Summarizing
Repeating what the author said	Restating what the author said	Condensing what the author said
Using the author's language	Using language different from the author's	Using key language from the author to develop a personal summary
Including secondary information	Possibly including secondary information	Focusing on need-to-know elements and eliminating secondary information
Rehearsing ("The author said...")	Personalizing the message ("How I would say it?")	Summing up the message ("Basically, the author said...")



STUDENT READING



The air was literally filled with pigeons; the light of noon-day was obscured as by an eclipse... The pigeons were still passing in undiminished numbers, and continued to do so for three days in succession.

– John James Audubon

The Passenger Pigeon from Billions to Zero

Passenger Pigeons were once the most numerous birds in North America. They gathered in huge flocks that could block out the sun darkening the sky like a storm cloud for hours, even days, as they passed overhead. With a population that numbered in the billions, no one could have imagined that such a common, abundant species could be hunted to extinction.

One hundred years has passed since the last Passenger Pigeon died in 1914. But what were Passenger Pigeons? What happened to cause their extinction? What can we learn from the sad story of this vanished species?



Passenger Pigeon specimens from the ornithology collection at the New York State Museum. Adult males (right) had bluish heads and backs and rust-colored breasts, while females (left) were duller and more brown. Juveniles looked similar to the adult female.

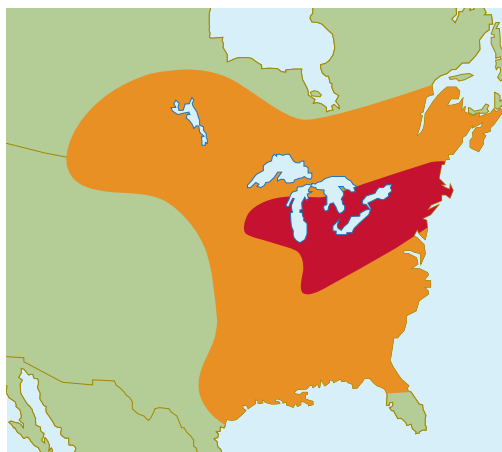
America's Wild Pigeon

notes

The scientific name for the Passenger Pigeon is *Ectopistes migratorius*, which means “to wander” or “to change location.” Huge Passenger Pigeon flocks roamed widely throughout the eastern United States and Canada in search of food. When a passing flock spotted a forest rich in their favorite foods (especially chestnuts, acorns, and beech nuts, but also fruits, insects, and worms) they would begin a feeding frenzy. The hungry birds would strip the ground bare before settling down to roost in the trees.

Passenger Pigeons nested in enormous colonies that stretched up to 100 miles. Passenger Pigeon pairs constructed flimsy twig nests and laid a single egg. Both parents incubated the egg and cared for the chick. Most species of birds lay more than one egg at a time.

These fantastic fliers reached speeds of 60 miles per hour, and traveled thousands of miles each year. They were powered by massive flight muscles in their chests. It was because of this “breast meat” that they were such a valuable food source for people.



Map of North America showing the area where Passenger Pigeons ranged (orange) and where they bred (red).



Large-scale commercial hunting devastated the Passenger Pigeon population. Well-organized trappers killed hundreds of thousands of wild pigeons to supply the demand for inexpensive meat.

Courtesy of the Wisconsin Historical Society, WHS-25763

People and Pigeons

notes

Passenger Pigeons were an important food source for humans for thousands of years, and were hunted by Native Americans throughout eastern North America. Seneca hunters moved closer to nesting and roosting sites. They used nets to capture the birds or long poles to knock them out of nests. In early Spring, in anticipation of the northward migration of the Passenger Pigeon flocks, the Seneca people would celebrate the returning flocks by performing a pigeon dance and song.

In the mid-1800s many forests were converted to farmland and technological advances greatly increased the number of birds that could be hunted. Hunters used shotguns or nets to collect thousands of Passenger Pigeons. Telegraphs alerted professional hunters to current roosting and nesting colonies, while railroads and canals enabled huge shipments of pigeons to be sent to the growing cities of the East and Midwest. Plentiful and delicious, “wild pigeon” and “squab” dishes were a feature of many restaurant menus.

Large-scale commercial hunting devastated the Passenger Pigeon population.



Entrance to Dutchess Quarry Cave in Orange County, New York, taken during a 1965 excavation by archaeologists from the New York State Archaeological Association and the New York State Museum.

Passenger Pigeon Remains from Archaeological Sites

notes

Passenger Pigeon bones were recovered by New York State archaeologists in the Dutchess Quarry Caves in Orange County, New York. These and other specimens from Native American and Euro-American archaeological sites throughout New York likely indicate that Passenger Pigeons have been hunted for centuries.



Bones of Passenger Pigeons found at Dutchess Quarry Caves.

New York State Museum Vertebrate Paleontology Collection



Martha, last of the Passenger Pigeons, died one hundred years ago.

Extinction!

notes

Beginning in the 1840s, the killing of millions of Passenger Pigeons and disruption of essentially every nesting colony over a 30-year period left few birds to mature and reproduce. Large flocks were no longer seen by the 1870s. By the 1890s very few Passenger Pigeons remained.

The last known wild bird was shot in 1900, although some still survived in captivity. The last captive male Passenger Pigeon died in 1910, leaving only a female named Martha, the last of a species that not long before had numbered in the billions. Martha lived in captivity for 29 years; she died in her cage at the Cincinnati Zoo at 1 p.m. on September 1st, 1914.

The extinction of the Passenger Pigeon was an important factor in the growing conservation movement of the early 20th century. The idea that humans could kill off forever an entire species fueled a movement to conserve and protect wild birds and wild places. Concern about protecting species encouraged the creation of laws including the Migratory Bird Treaty Act of 1918 which makes it illegal to kill or injure migratory birds.

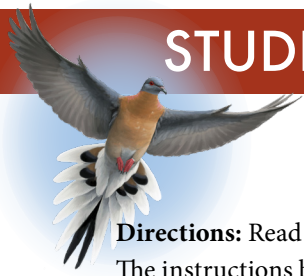
“The pigeons, arriving by the thousands, alighted everywhere, on above another. Here and there the perches gave way under the weight with a crash, and falling to the ground, destroyed hundreds of the birds beneath. It was a scene of uproar and confusion. I found it quite useless to speak, or even to shout to those persons who were nearest to me. Even the reports of the guns were seldom heard, and I was made aware of the firing only by seeing the shooters reloading.”

– John James Audubon

(Describing a foraging site in Kentucky in the company of pigeon hunters)



The New York State Museum is a program of
The University of the State of New York | The State Education Department | Office of Cultural Education



STUDENT INTERACTIVE READING GUIDE

Directions: Read the Student Reading, *The Passenger Pigeon: From Billions to Zero* with your partner. The instructions below will prompt you to stop several times to talk with your partner about what the text is teaching you. You are using literacy strategies such as paraphrasing, sketching, and jotting the gist (or summary) in the margin of the Student Reading.

America's Wild Pigeon (page 2 of the Student Reading)

1. Creating Mental Images. The description of a flock of passenger pigeons and the map help readers visualize this vanished species. **Partner A:** Read the first paragraph aloud. **Partner B:** As you listen to the paragraph, visualize what you are listening to. After your partner has finished reading the paragraph, describe what you saw in your mind as you were listening.
2. **Both Partners:** The paragraph you have just read contains figurative language and several adjectives that helped you visualize a feeding flock of Passenger Pigeons. Reread the paragraph on your own and underline the words and phrases that most help you visualize the flock. **Partner A:** After reading, show your partner which words/phrases you underlined, and explain how they helped explain a flock of Passenger Pigeons.
3. Determine importance. **Both Partners:** Read paragraph 2 and 3 silently. Ask yourself, what is the gist of this paragraph? In your own words, jot the gist in the margin. (You need not write in full sentences—your jot simply needs to make sense to you when you go back and read it.) After you have both read and jotted, share what you wrote in the margins and see if you agree on the gist of this paragraph.

People and Pigeons/Passenger Pigeon Remains from Archaeological Sites (pages 3 and 4 of the Student Reading)

1. Creating Mental Images. The first paragraph on page 3 is written to help readers understand the importance of the Passenger Pigeon to humans. **Partner B:** Read the paragraph aloud. **Partner A:** As you listen to the paragraph, imagine hunting pigeons as a Native American. After your partner has finished reading the paragraph, describe what you saw in your mind as you were listening.
2. **Both partners:** The paragraph you just read contains specific information about the historic relationship between humans and Passenger Pigeons. Reread the paragraph on your own and underline the words and phrases that helped you understand the ways Passenger Pigeons were hunted by Native Americans. **Partner A:** After reading, show your partner which words/phrases you underlined, and explain how they help explain the relationship between Native Peoples and Passenger Pigeons.
3. Determine importance. **Both Partners:** Read the rest of page 3 and all of page 4 silently. Ask yourself, what is the gist of each paragraph? In your own words, jot the gist in the margin. (You need not write in full sentences.) After you have both read and jotted, share what you wrote in the margins and see if you agree on the gist of these paragraphs.

continued on page 2...



Extinction! (page 5 of the Student Reading)

The next three paragraphs explain what caused the extinction of the Passenger Pigeon.

1. **Both Partners:** Read the first paragraph on your own. **Work Together:** Reread and underline the first sentence. Talk about what “extinction” means. Make suggestions based on knowledge you already have, and/or predict what it might mean if you are not sure.
2. Paragraph two will give you a better understanding of what ‘extinct’ means. **Partner B:** Read paragraph two aloud, but stop after each sentence. After each sentence, explain what it is saying. **Partner A:** As you listen to your partner describing the extinction, interject to add on or ask questions.
3. **Both partners:** Read the last paragraph silently on your own. Turn and talk about what you are thinking now that you have finished the passage.

Please answer the two questions. Your answers should sound like summaries but remember that they should be written in your own words.

1. What factors lead to the extinction of the Passenger Pigeon?

Use these terms in your answer:

extinction	disruption	nesting	food source	technology
hunting	numerous	roosting	migration	

2. What are some of the societal implications of the Passenger Pigeon extinction?

Use these terms in your answer:

conservation	disappeared	captivity	extinction
abundant	common	reproduce	
