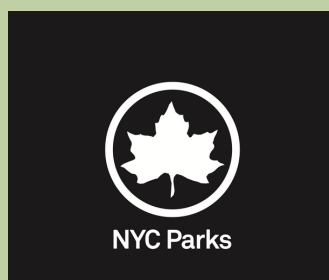


# SPARKS!

A STEMteachersNYC and  
NYC Parks partnership



## LESSON PLAN HAWK ECOSYSTEMS





# Hawk Ecosystems

**Developed by:** Martina Meijer, Dual Language fourth grade classroom at PS 139K in Brooklyn, New York

## **WILDLIFE, STEWARDSHIP, RESTORATION, RESILIENCE!**

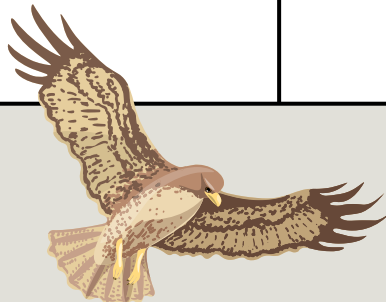
The STEM in Parks (SPARKS) project is a unique opportunity for teachers to collaborate in small local STEMteacherNYC teams with research scientists and education staff at NYC Parks and learn to use a local park as a local outdoor lab, to help students and colleagues connect to, understand, and care for local ecosystems and their communities. Participating Parks divisions include Forestry, Horticulture, and Natural Resources; the Wildlife Unit; Sustainable Facilities; and MS4 Compliance. Participating SPARKS teachers will collaborate with Parks colleagues and will together produce place- and/or research-based, standards and curriculum integrated lessons, focused on the ongoing, dynamic, research projects of Parks Divisions.





# Hawk Ecosystems

<p><b><u>Session 1:</u></b> Activating prior knowledge Chalk talk: hawks</p> <p>Read Aloud: City Hawk KLEWS chart - K, W</p>	<p><b><u>Session 2:</u></b> Read Aloud: Pale Male E: what evidence did we read about regarding what the hawks eat? Formulating a question: How do the hawks around PS 139 get what they need to survive?</p>	<p><b><u>Session 3:</u></b> Scouting Locations Going outside, drawing maps Looking for evidence of living things</p>	<p><b><u>Session 4:</u></b> Installing the trail cams Drawing maps of their positions, paths of the camera -making predictions about what we will see.</p>
<p><b><u>Session 5:</u></b> Reviewing the data and adjusting our plan -seeing the first pictures, what adjustments do we need to make about the camera placement?</p>	<p><b><u>Session 6:</u></b> Reviewing the data What evidence are we seeing on the cameras? (KLEWS - E)</p>	<p><b><u>Session 7:</u></b> Making a claim- a statement based on evidence that answers our investigation question. Reasoning- connecting our claim with evidence and scientific principles. (KLEWS-L, S)</p>	<p><b><u>Session 8:</u></b> Sharing our findings Students summarize the question, process, evidence, claim, and scientific reasoning. Students prepare visual information to communicate their findings to the school community (in both Spanish and English.)</p>





# Lesson Plan Day 1: Red-Tailed Hawks in Urban Environments

**Grade Range:** 4th Grade

**Subject:** Science

**Lesson Duration:** 45 minutes

## Materials

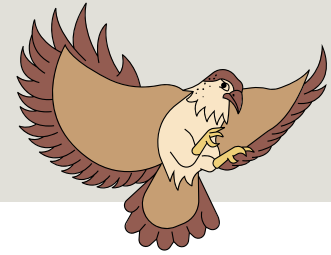
- Chart paper or whiteboard
- Markers
- Copies of the book "City Hawk" by Meghan McCarthy
- KLEWS Chart template (Knowledge, Learning, Evidence, Wonder, and Science) - prepared in advance

## Unit Goals and Objectives:

- Students will activate their prior knowledge about hawks, engage in a chalk talk activity, and begin exploring the topic of red-tailed hawks in urban environments through a read-aloud and KLEWS chart.



# Procedure: Red-Tailed Hawks in Urban Environments



## 1. Introduction (5 minutes):

- Greet the students and explain that the class will be starting a new science unit on red-tailed hawks.
- Share the learning objective for the day: "Today, we will activate our prior knowledge about hawks and begin learning about red-tailed hawks in urban environments."

## 2. Activating Prior Knowledge - Chalk Talk Activity (10 minutes):

- Distribute markers and ask students to stand up and gather around a large sheet of chart paper or a whiteboard.
- Explain the chalk talk activity: Students will silently write down everything they already know or think they know about hawks on the chart paper. They can write words, phrases, or draw simple illustrations.
- Encourage students to contribute their ideas to the chart paper by taking turns and adding to each other's thoughts.
- After 5 minutes, have students sit back down and discuss the information gathered on the chart paper. Ask questions to elicit further discussion and clarification.

## 3. Read Aloud - "City Hawk" (15 minutes):

- Introduce the book "City Hawk" by Meghan McCarthy, explaining that it tells the story of a red-tailed hawk that lives in New York City.
- Read the book aloud to the class, making sure to engage the students by showing the illustrations and asking questions throughout the story.
- Pause at key points in the story to discuss and connect with the students' prior knowledge and observations.

## 4. KLEWS Chart - K, W (10 minutes):

- Display the prepared KLEWS Chart template on a chart paper or whiteboard.
- Explain that the KLEWS Chart will help organize their knowledge, learning, evidence, and questions about red-tailed hawks in urban environments.
- Together as a class, fill in the "K" (Knowledge) and "W" (Wonder) sections of the chart based on the information gathered from the chalk talk activity and the read-aloud.
- Write down the students' existing knowledge and questions related to red-tailed hawks in urban environments.

# Procedure: Red-Tailed Hawks in Urban Environments

## 5. Wrap-up (5 minutes):

- Summarize the main points discussed in the session and highlight the importance of red-tailed hawks in urban environments.
- Explain that in the next session, the class will continue to explore red-tailed hawks in urban environments and begin investigating their habitats and adaptations.
- Encourage students to think about any additional questions they may have for the next session.

## Extension:

If time permits, you can engage the students in a brief discussion about why red-tailed hawks might choose to live in urban environments, the challenges they might face, or how they adapt to these environments.

**Note:** Adjust the timings as necessary to accommodate the needs and pace of your class.







# Lesson Plan Day 2: Red-Tailed Hawks in Urban Environments

**Grade Range:** 4th Grade

**Subject:** Science

**Lesson Duration:** 45 minutes

## Materials

- The book "Pale Male" by Janet Schulman
- Post-it notes
- KLEWS chart (with sections for K-What we know, L-What we learned, E-Evidence, W-What we want to find out, and S-How we'll explore it)

## Unit Goals and Objectives:

- By the end of the lesson, students will be able to formulate a question about how red-tailed hawks in urban environments obtain what they need to survive, based on evidence from the book Pale Male.



# Procedure Day 2: Red-Tailed Hawks in Urban Environments

## 1. Introduction (5 minutes)

- Begin the lesson by reviewing the previous lesson about red-tailed hawks and their characteristics in urban environments.
- Recap the story of Pale Male briefly, mentioning that it provides evidence about the hawks' behavior and habitat in an urban setting.

## 2. Read Aloud (15 minutes)

- Read aloud the book "Pale Male" to the class, ensuring that all students can see the illustrations and hear the story clearly.
- Encourage students to listen carefully to gather evidence about what the hawks eat in the urban environment.

## 3. Post-it Evidence (10 minutes)

- Distribute post-it notes to each student.
- Instruct the students to write down evidence from the story about what the hawks eat, one piece of evidence per post-it note.
- Encourage students to think about specific examples or details mentioned in the book.
- Once they have written their evidence, have them stick the post-it notes on the E (Evidence) section of the KLEWS chart.

## 4. Share and Discuss (10 minutes)

- Invite students to share the evidence they gathered by reading their post-it notes aloud.
- As each piece of evidence is shared, write it on the KLEWS chart under the E (Evidence) section.
- Facilitate a discussion around the evidence, asking students to elaborate on specific examples and explain why that evidence is important in understanding the hawks' diet.

## 5. Formulating a Question (15 minutes)

- Direct students' attention to the W (What we want to find out) section of the KLEWS chart.
- Explain that they will now formulate a question based on the evidence they gathered and the information presented in the book.
- Model the process by thinking aloud and formulating a question related to the hawks' survival needs. For example, "How do the hawks around PS 139 get what they need to survive?"
- Provide sentence starters to support students in formulating their questions, such as:
  - "How do red-tailed hawks in urban environments..."
  - "What strategies do red-tailed hawks use to..."
  - "In what ways do red-tailed hawks adapt to..."
- Encourage students to write their questions on post-it notes and place them under the W (What we want to find out) section of the KLEWS chart.



# Procedure Day 2: Red-Tailed Hawks in Urban Environments

## 6. Conclusion (5 minutes)

- Wrap up the lesson by summarizing what students have learned about red-tailed hawks' diet in urban environments based on the evidence presented in the book.
- Reinforce the importance of asking questions to deepen understanding and promote scientific inquiry.

## Extensions/Adaptations:

- For advanced students, encourage them to research further about red-tailed hawks in urban environments and create a short presentation or infographic to share their findings.
- For struggling students, provide additional support by working with them individually or in small groups to help them generate their questions and contribute to the KLEWS chart.

**Note:** This lesson plan assumes that the students have some prior knowledge about red-tailed hawks.





# Lesson Plan Day 3: Red-Tailed Hawks in Urban Environments

**Grade Level:** Fourth Grade

**Subject:** Science

**Lesson Duration:** 60 minutes

## Materials

- Game cameras (2)
- Paper and pencils
- Clipboards (optional)
- Maps or aerial images of the school building and its surroundings
- Field guides or resources on red-tailed hawks (optional)

## Unit Goals and Objectives:

- Students will scout locations around the school building to identify suitable spots for placing game cameras.
- Students will consider different trees, fences, and other options to mount the game cameras to maximize the capture of animal traffic.
- Students will observe and record evidence of living things in the selected areas.



# Procedure Day 3: Red-Tailed Hawks in Urban Environments

## 1. Introduction (5 minutes):

- Begin the lesson by reviewing the previous sessions on red-tailed hawks in urban environments.
- Explain that today, students will be scouting locations around the school building to find suitable spots for placing game cameras.
- Emphasize the importance of selecting strategic locations to maximize the chances of capturing animal traffic.

## 2. Preparing for Outdoor Activity (10 minutes):

- Distribute maps or aerial images of the school building and its surroundings to each student.
- Instruct students to study the maps and familiarize themselves with the areas around the school.
- Encourage them to pay attention to natural features, such as trees, fences, or any other potential spots for game camera placement.
- Optional: Provide field guides or resources on red-tailed hawks to help students understand their habitats and behavior better.

## 3. Outdoor Activity: Scouting Locations (25 minutes):

- Lead the students outside to explore the areas around the school building.
- Divide the students into small groups of 3-4, ensuring each group has a clipboard, paper, and pencils.
- Instruct the groups to walk around and identify potential spots to place the game cameras.
- Encourage students to look for evidence of wildlife, including signs of red-tailed hawks or any other animals.
- Have students sketch or mark their chosen locations on their maps, noting any relevant observations or potential animal habitats.
- Circulate among the groups, providing guidance, and answering questions.

## 4. Sharing and Discussion (15 minutes):

- Bring the students back together as a whole class.
- Ask each group to share their chosen locations, explaining their reasoning behind the choices.
- Facilitate a class discussion on the different locations, encouraging students to consider the advantages and disadvantages of each spot.
- Discuss the evidence of living things observed during the activity, specifically focusing on red-tailed hawks and their habitats.
- Guide the conversation towards the importance of preserving urban wildlife and the role red-tailed hawks play in the ecosystem.

# Procedure Day 3: Red-Tailed Hawks in Urban Environments

## 5. Wrap-up (5 minutes):

- Summarize the main points discussed during the activity and the class discussion.
- Reinforce the importance of being mindful of wildlife in urban environments and the need for responsible observation and conservation.
- c. Assign a small homework task for the next session, such as researching more about red-tailed hawks or drawing a diagram of their chosen game camera location.

## Extension Activity (Optional):

- If time allows, you can extend the lesson by:
- Having students conduct research on red-tailed hawks and create informational posters or presentations to share with the class.
- Discussing the impact of urbanization on wildlife and brainstorming ways to create more wildlife-friendly environments around the school or in their community.
- Note: Ensure that students are aware of safety guidelines while exploring outdoor areas and remind them to respect the natural environment





# Lesson Plan Day 4: Red-Tailed Hawks in Urban Environments

**Grade Level:** Fourth Grade

**Subject:** Science

**Lesson Duration:** 60 minutes

## Materials

- Trail cams (one per group)
- Maps or grid paper
- Pencils, markers, or colored pencils
- Projector or whiteboard for brainstorming
- Red-tailed hawk fact sheets or related resources
- Chart paper and markers

## Unit Goals and Objectives:

- Students will understand the importance of using trail cams to observe and study red-tailed hawks in urban environments.
- Students will learn how to install trail cams and draw maps of their positions and the paths of the cameras.
- Students will make predictions about the types of observations they might capture using the trail cams.



# Procedure Day 4: Red-Tailed Hawks in Urban Environments

## 1. Introduction (5 minutes):

- a. Begin the lesson by reviewing previous sessions' learnings about red-tailed hawks and their adaptation to urban environments.
- b. Share the session's goals with the students, emphasizing the use of trail cams to observe red-tailed hawks and make predictions about the observations.

## 2. Brainstorming Predictions (10 minutes):

- a. Ask students to share their predictions about what they might observe using the trail cams in urban areas.
- b. Write down their predictions on the chart paper or whiteboard.
- c. Discuss the predictions and encourage students to think about different aspects such as hawk behavior, food sources, nesting sites, and interactions with other animals.

## 3. Trail Cam Installation Instructions (15 minutes):

- a. Divide the students into small groups and provide each group with a trail cam.
- b. Explain the proper procedure for installing the trail cams, ensuring they are secure and positioned strategically.
- c. Emphasize the importance of not disturbing the environment or the hawks while installing the cameras.
- d. Demonstrate the installation process using a sample trail cam, and allow students to ask questions.

## 4. Drawing Maps (15 minutes):

- a. Provide each group with maps or grid paper and drawing materials.
- b. Instruct students to draw maps representing the locations where they plan to install their trail cams in the schoolyard or a nearby urban area.
- c. Encourage students to consider the best vantage points for observing hawks while maintaining the cameras' safety.
- d. Remind them to label the positions of the trail cams and include directional arrows to indicate the paths of the cameras' views.

## 5. Sharing and Discussion (10 minutes):

- a. Allow each group to present their maps to the class.
- b. Facilitate a discussion about the different positions chosen by the groups and the reasoning behind their decisions.
- c. Encourage students to provide feedback and suggestions for improving each group's trail cam placement.



# Procedure Day 4: Red-Tailed Hawks in Urban Environments

## 6. Reflection and Wrap-Up (5 minutes):

- Lead a brief reflection activity by asking students to share their thoughts on the trail cam installation process and map drawing.
- Discuss any challenges encountered during the activity and how they were overcome.
- Revisit the predictions made at the beginning of the lesson and ask students to reflect on their expectations after completing the trail cam installation.

## Extensions and Homework:

- Encourage students to conduct further research on red-tailed hawks in urban environments and share their findings in the next session.
- Assign a short writing task where students describe their predictions for the trail cam observations and explain their reasoning.
- Optional: Ask students to document any additional observations they make in their surroundings using photographs or sketches and bring them to the next session for discussion.

**Note:** Ensure that students understand the importance of respecting wildlife and their habitats while using trail cams. Emphasize the significance of observation and data collection for studying and protecting urban wildlife.





# Day 5: Red-Tailed Hawks in Urban Environments: Reviewing Data and Adjusting Our Plan

**Grade Level:** Fourth Grade

**Subject:** Science

## **Materials**

- Game cam photos (featuring cats, squirrels, pigeons, and the custodian with a leaf blower)
- Whiteboard or chart paper
- Markers
- Student journals
- Read aloud books about red-tailed hawks in urban environments (from previous lessons)

## **Unit Goals and Objectives:**

- Students will analyze the data and adjust camera placement for capturing photos of red-tailed hawk prey in an urban environment.
- Students will investigate the feeding habits of red-tailed hawks and determine if they eat stray cats.
- Students will explore the absence of mice or rats in the game cam photos and hypothesize possible reasons for their absence.



# Procedure Day 5: Red-Tailed Hawks in Urban Environments

## 1. Introduction (5 minutes):

- Begin the lesson by reviewing the previous lessons and the objective for today's class.
- Remind students that the goal is to capture photos of red-tailed hawk prey using game cams and explore their feeding habits.

## 2. Data Analysis (10 minutes):

- Show the students the game cam photos that were taken since the last class.
- Ask the following questions to facilitate discussion:
  - "What adjustments do we need to make about the camera placement based on the photos?"
  - "What types of animals did we see in the pictures?"
  - "Do you think hawks eat stray cats? Why or why not?"
  - "Why do you think we have lots of pictures of cats, squirrels, and pigeons, but no mice or rats?"
- Encourage students to share their observations and thoughts while taking notes on the whiteboard or chart paper.

## 3. Adjusting Camera Placement (10 minutes):

- Based on the students' observations, discuss possible adjustments to the camera placement to capture photos of hawk prey.
- Brainstorm different locations or strategies that might increase the chances of capturing photos of mice or rats.
- Record the ideas on the whiteboard or chart paper for future reference.

## 4. Investigating Feeding Habits (15 minutes):

- Engage the students in a discussion about whether hawks eat stray cats.
- Ask them to provide reasons to support their answers, using information from the read-aloud books and their understanding of the hawks' diet.
- Encourage students to consider the size, behavior, and availability of cats as prey for hawks.
- Summarize the discussion and emphasize the need for further investigation and evidence before drawing conclusions.

## 5. Hypothesizing the Absence of Mice or Rats (15 minutes):

- Facilitate a class discussion on the absence of mice or rats in the game cam photos.
- Encourage students to generate hypotheses about why these animals might not be showing up in the pictures.
- Guide the discussion to consider factors such as hiding behavior, activity patterns, and camera positioning.
- Emphasize the importance of collecting more data and conducting further investigations to test their hypotheses.

# Procedure Day 5: Red-Tailed Hawks in Urban Environments

## 6. Conclusion and Reflection (5 minutes):

- Summarize the key points discussed during the lesson.
- Have students reflect on their learning by writing a short paragraph in their journals, answering the following questions:
  - "What adjustments do we need to make in camera placement?"
  - "Do red-tailed hawks eat stray cats? Why or why not?"
  - "Why do you think we didn't see mice or rats in the game cam photos?"

## Extension Activity (Optional):

- As an extension activity, students can design and create their own model game cams using simple materials like cardboard, craft sticks, and string.
- They can then experiment with different camera placements and test their effectiveness by observing and gathering data





# Day 6 Lesson Plan: Red-Tailed Hawks in Urban Environments - Reviewing the Data

**Grade:** 4th grade

**Subject:** Science

**Lesson:** Reviewing the Data

**Duration:** 45 minutes

## Materials

- Data sheets or notebooks for each student
- Projector or smartboard for displaying data
- Cameras used for data collection (if available)
- Pictures or video clips of red-tailed hawks in urban environments (if available)
- Chart paper and markers

## Unit Goals and Objectives:

- Students will review the data collected from the cameras placed in urban environments to identify evidence of red-tailed hawks.
- Students will analyze the evidence and draw conclusions about the presence and behavior of red-tailed hawks in urban areas.
- Students will develop their understanding of the KLEWS (K: What I Know, L: What I Learned, E: Evidence, W: Wonder, S: Scientific Explanation) model and apply it to their observations



# Procedure Day 6: Red-Tailed Hawks in Urban Environments

## 1. Warm-up (5 minutes):

- Begin the lesson by asking the students to recall what they have learned about red-tailed hawks in previous sessions. Allow a brief discussion to refresh their memories.

## 2. Introduction to Reviewing the Data (5 minutes):

- Explain to the students that in this session, they will be reviewing the data collected from the cameras placed in urban environments.
- Emphasize the importance of analyzing the evidence to draw conclusions about the presence and behavior of red-tailed hawks in urban areas.

## 3. Displaying the Data (10 minutes):

- If available, display the pictures or video clips of red-tailed hawks in urban environments.
- Alternatively, use a projector or smartboard to display the data collected from the cameras.
- Encourage the students to observe and discuss what they see in the data, focusing on the presence of red-tailed hawks and their behaviors.

## 4. Analyzing the Data (15 minutes):

- Distribute the data sheets or notebooks to each student.
- Instruct the students to analyze the data and record their observations and findings in their data sheets or notebooks.
- Encourage them to identify patterns, such as the frequency of hawk sightings, preferred locations, hunting behaviors, etc.

## 5. KLEWS Discussion (10 minutes):

- Introduce the KLEWS model to the students, explaining each component: K (What I Know), L (What I Learned), E (Evidence), W (Wonder), and S (Scientific Explanation).
- Facilitate a class discussion where students share their observations, evidence, and wonders about the presence and behavior of red-tailed hawks in urban environments.
- Write down their responses on chart paper under the appropriate KLEWS headings.

## 6. Drawing Conclusions (5 minutes):

- Based on the data analysis and the class discussion, guide the students to draw conclusions about red-tailed hawks in urban areas.
- Summarize the conclusions and highlight key points discussed during the lesson.



# Procedure Day 6: Red-Tailed Hawks in Urban Environments

## 7. Wrap-up and Reflection (5 minutes):

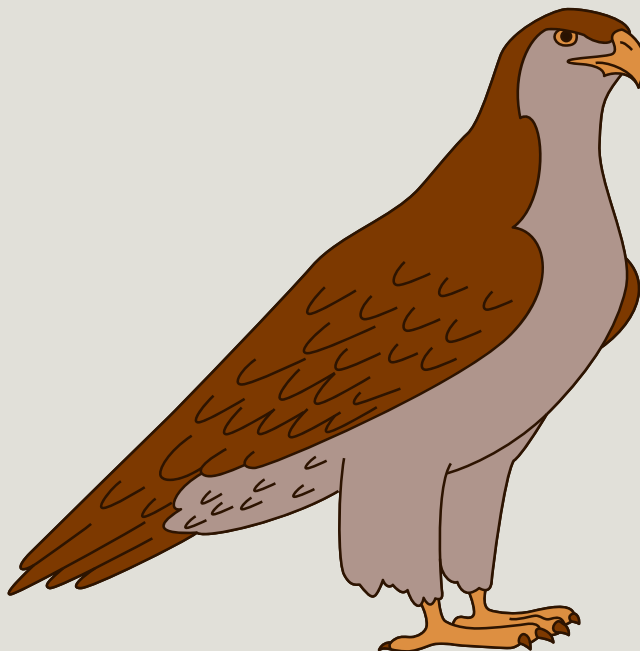
- Ask students to reflect on their learning by responding to the following questions in their data sheets or notebooks:
- What new information did you learn about red-tailed hawks in urban environments?
- How does this information connect with what you already knew?
- What questions or wonders do you still have about red-tailed hawks in urban environments?

## 8. Homework (optional):

- Assign a short writing task where students can further explore their wonders or questions about red-tailed hawks in urban environments. They can research and write a paragraph or draw a picture to represent their findings.

## Assessment:

- Monitor students' engagement and participation





# Day 7 Lesson Plan: Red-Tailed Hawks in Urban Environments

**Grade Level:** Fourth Grade

**Subject:** Science

**Duration:** 45 minutes

## Materials

- Game cam photos of red-tailed hawk prey
- Chart paper or whiteboard
- Markers
- Worksheet for students
- Pencils

## Unit Goals and Objectives:

- Students will be able to make a claim based on evidence regarding red-tailed hawks in urban environments.
- Students will be able to use reasoning to connect their claim with evidence from game cams of hawk prey and scientific principles.



# Procedure Day 7: Red-Tailed Hawks in Urban Environments

## 1. Warm-up (5 minutes):

- Begin the class by asking students to share what they remember about red-tailed hawks from previous lessons.
- Recap the key characteristics and behaviors of red-tailed hawks briefly.

## 2. Introduction (5 minutes):

- Introduce the concept of making a claim based on evidence.
- Explain that today, students will be making a claim about red-tailed hawks in urban environments and supporting it with evidence.

## 3. Discussion and Evidence (15 minutes):

- Show students the game cam photos of red-tailed hawk prey.
- Engage the class in a discussion about the evidence they see in the photos.
- Ask questions to guide their thinking, such as:
  - What types of prey are visible in the photos?
  - How do you think the presence of this prey supports the idea of red-tailed hawks thriving in urban environments?
- Record their ideas on the chart paper or whiteboard.

## 4. Making a Claim (10 minutes):

- Explain to the students that they will now make a claim based on the evidence they have observed.
- Distribute the worksheet and ask students to write a claim statement that answers the investigation question: "Can red-tailed hawks thrive in urban environments?"
- Instruct them to use the evidence from the game cam photos to support their claim.
- Encourage students to think critically and consider scientific principles they have learned.

## 5. Reasoning (10 minutes):

- After the students have written their claim statements, ask them to work in pairs or small groups.
- Instruct them to discuss and write down their reasoning, explaining how the evidence from the game cams and scientific principles support their claim.
- Walk around the classroom, providing support and guidance as needed.

# Procedure Day 7: Red-Tailed Hawks in Urban Environments

## 6. Sharing and Conclusion (5 minutes):

- Ask a few pairs or groups to share their claim statements and reasoning with the whole class.
- Encourage a respectful discussion where students can ask questions or provide feedback to their peers.
- Summarize the main points discussed and conclude the lesson by emphasizing the importance of evidence and reasoning in making scientific claims.

## Assessment:

- Collect the students' worksheets and assess their claim statements and reasoning for understanding of the topic.
- Observe students' participation in discussions and their ability to connect evidence with their claim and scientific principles.

## Extension Activities:

- Invite a local ornithologist or bird expert to visit the class and share insights about red-tailed hawks in urban environments.
- Assign a research project where students can explore other bird species that adapt to urban environments and compare their findings with red-tailed hawks.
- Encourage students to explore nature and observe bird behavior in their local urban environment, keeping a journal or creating a photo collage of their observations.





# Day 8 Lesson Plan: Red-Tailed Hawks in Urban Environments

**Grade Level:** Fourth Grade

**Subject:** Science

**Lesson:** Sharing our Findings

## Materials

- Game cam footage of red-tailed hawks in the school community
- Paper, markers, and other art supplies
- Computers or tablets with internet access
- Projector or interactive whiteboard

## Unit Goals and Objectives:

- Students will summarize the question, process, evidence, claim, and scientific reasoning related to red-tailed hawks in urban environments.
- Students will prepare visual information to effectively communicate their findings from the game cams in both Spanish and English.



# Procedure Day 8: Red-Tailed Hawks in Urban Environments

## Introduction (10 minutes):

- Greet the students and briefly review the previous lessons about red-tailed hawks in urban environments.
- Explain that today's lesson is about sharing their findings from the game cams that were collecting evidence of hawk prey and hawks in the school community.
- Remind the students of the importance of summarizing their question, process, evidence, claim, and scientific reasoning in order to effectively communicate their findings.

## Activity 1: Summarizing Findings (20 minutes):

- Divide the students into small groups of 3-4 students each.
- Provide each group with a worksheet or graphic organizer that includes sections for question, process, evidence, claim, and scientific reasoning.
- Instruct the students to review the game cam footage and discuss their findings within their groups.
- Guide the students in summarizing their findings on the worksheet or graphic organizer, ensuring that each section is completed thoroughly.
- Circulate the classroom to provide assistance and clarification as needed.

## Activity 2: Visual Presentation Preparation (25 minutes):

- Explain to the students that they will be preparing visual information to communicate their findings in both Spanish and English.
- Discuss the importance of using visual aids, such as posters or slides, to make their presentations engaging and informative.
- Provide the students with art supplies and access to computers or tablets.
- Instruct the students to create visual representations of their findings, incorporating images, diagrams, and key information.
- Encourage the students to use both Spanish and English captions, labels, or explanations to enhance their communication.
- Monitor the students' progress and offer guidance and feedback as they work on their visual presentations.

## Activity 3: Sharing Findings (15 minutes):

- Gather the students together as a whole class.
- Invite each group to present their visual presentations to the class.
- Encourage the students to explain their findings clearly and concisely, using both Spanish and English.
- After each presentation, allow time for questions and discussion.
- Provide positive feedback and constructive comments to each group.



# Procedure Day 8: Red-Tailed Hawks in Urban Environments

## Conclusion (5 minutes):

- Summarize the key findings presented by the groups and emphasize the importance of sharing scientific information in a clear and engaging manner.
- Discuss the value of studying red-tailed hawks in urban environments and their role in the local ecosystem.
- Reinforce the idea that science is a collaborative process that involves sharing and building upon knowledge.

## Assessment:

- Observe the students' engagement and participation during group discussions and the presentation.
- Evaluate the completion of the worksheets or graphic organizers, focusing on the clarity and thoroughness of their summaries.
- Assess the quality and effectiveness of the visual presentations, considering the use of visuals, bilingual communication, and organization.

## Extension Activity:

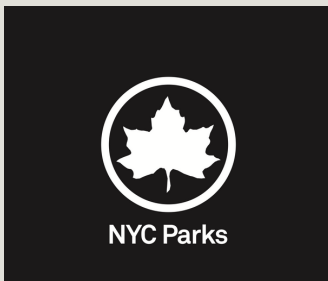
- Encourage students to create an informational pamphlet or poster about red-tailed hawks in urban environments, which can be displayed in the school or shared with the local community.
- Provide additional resources or articles for interested students to further explore the topic of birds of prey in urban areas



# ABOUT SPARKS!

With the twin goals of engaging students in the dynamic research taking place in their local parks, and of bringing the STEM in Parks into classrooms, in the early spring of 2021, six teams of STEMteachersNYC teachers, from across all boroughs and from K-12 public and independent schools, partnered with six teams of researchers and educators from across NYC Parks Department divisions, to collaborate on diverse ways of integrating the outdoor, highly place-based work of NYC Parks with K-12 STEM teaching and learning. Products of the partnership will include a set of free lessons and units that support teachers and schools in bringing students outside and into their local parks, to think critically and engage as stewards with the environment around them.

## PARTNERS



NYC Parks is the steward of more than 30,000 acres of land — 14 percent of New York City — including more than 5,000 individual properties. Our vision is to create and sustain thriving parks and public spaces for New Yorkers.



STEMteachersNYC is a nonprofit organization dedicated to supporting a community of STEM teachers across the NYC region. Our mission is to cultivate excellence in STEM teaching and to promote deep understanding and success for students through innovative, teacher-led professional development.

## JOIN US

Learn more about upcoming opportunities online at [stemteachersnyc.org/sparks/](https://stemteachersnyc.org/sparks/)  
Contact [info@stemteachersnyc.org](mailto:info@stemteachersnyc.org) with any questions!