



Engaging future conservation leaders: Audubon's Outdoor Field Science Program

*New Mexico Department of Game and Fish: Share with Wildlife Final Report
January-June 2020*

Description of Work

Over the past two decades, thousands of Santa Fe youth have benefitted from exposure to natural environments, hands-on science curriculum, and experiential learning opportunities as part of the *Outdoor Field Science* program through Audubon New Mexico (ANM) and the Randall Davey Audubon Center (RDAC). Our goal is to engage low-income 3rd, 4th, and 5th graders with standards-aligned, inquiry-driven science field trips and in-class programs, spanning 9 hours of contact time. The program's objectives include providing targeted classes with engaging, hands-on, standards-aligned activities, and high-quality outdoor experiential education programs focused on topics such as New Mexico wildlife, habitat, conservation, and inquiry.

Studies indicate that effective programming relies on repeated engagement over an extended period of time. By providing multiple contact points with students, including school visits, on-site field trips, and virtual/distance learning opportunities, RDAC staff are employing innovative education techniques that develop deeper understandings and personal relationships with Audubon and our conservation initiatives.

Success in the 2019-2020 School Year

Audubon New Mexico's Outdoor Field Science Program has continued to be a memorable and successful method of engaging Santa Fe Public School students in hands-on, outdoor education. During the 2019-2020 school year, **21 classrooms were able to visit RDAC in the fall of 2019, and 14 classes received at-school programs from an ANM educator during winter 2019-2020.** Due to funding from NMDGF's Share with Wildlife Program, ANM educators had **direct contacts with 735 students** through school visits and field trips to RDAC. (See Appendix A for program details). An additional 65 adults participated as adult chaperones during field trips. This total number was projected to be closer to 1,320 students, or 42 total fieldtrips and 21 total school visits, but all school functions were cancelled for Spring 2020 due to COVID-19 and state-mandated stay-at-home orders.



Photos: Students reflect and discuss educator-prompted questions (L) and engage in an inquiry-based game to investigate animal adaptations (R). Both photos include Seasonal Education Intern Kathia Gonzales and were taken during Animal Adaptation field trips at the Randall Davey Audubon Center (Photo: Sally Maxwell)

Of the 2019-2020 student participants, approximately 90% identified as Hispanic or Latinx, and 100% attended Title 1 schools (50-100% of the school's student households are considered low or very-low income) (Appendix B). Audubon NM continues to prioritize these students and schools due to their underserved populations, and to address the systemic exclusion of people of color from the outdoor and conservation movement. Although Santa Fe boasts incredible outdoor recreation opportunities, an overwhelming number of students comment that the trip to RDAC is their first time in a forest. Audubon has made a commitment to expanding access to include the full diversity of New Mexico residents.



3rd Grade students from Amy Biehl Community School practice bird watching in the wildlife garden during their Birds of a Feather Explore Together field trip at the Randall Davey Audubon Center (Photo: Katie Weeks)

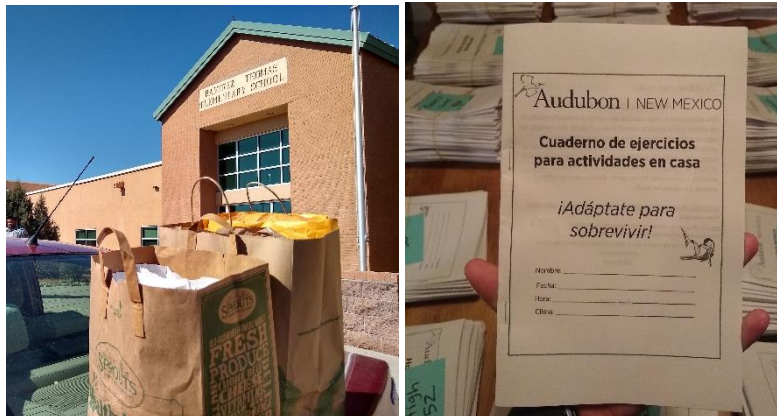
COVID-19 Challenges

Unfortunately, due to the COVID-19 pandemic, all spring field trips and classroom visits were cancelled as schools moved to a distance-learning model. Immediately, the education team reached out to teachers and community partners to conduct an informal and rapid needs-assessment. Teachers reported needing offline science activities that were available in Spanish in order to reach many of their higher-needs students. In response, the ANM

education team developed two printed workbooks based on RDAC field trips, Nature's Interconnections and Birds of a Feather Explore Together. Both workbooks focused on having kids conduct at-home science activities and backyard outdoor investigations. (Appendix C) Educators distributed the workbooks digitally to all of our partner teachers, and over 2300 physical copies were printed and distributed through SFPS food distribution sites around the city. These locations mainly targeted Santa Fe families with limited access to food and the internet.

These materials continue to be available online for families and teachers to download and use, free of charge: <https://nm.audubon.org/conservation/educational-resources>

Education Specialist, Sally Maxwell, also developed a supplementary video to support the workbook activities. The video was created, subtitled, and translated with support from the Santa Fe Community Educators Network COVID Response fund. The backyard habitat video is available in English with Spanish subtitles on the Audubon New Mexico YouTube page, and was distributed to SFPS teachers: <https://youtu.be/z8hXfb0rMcq>



Photos: Materials distributed by Audubon NM educators at Santa Fe food pickup sites in April 2020. Bilingual workbooks were designed in response to the COVID-19 stay-at-home order to provide life science content and encourage students to safely engage with the outdoors.

Program Assessment and Student Evaluation

Before attending their first program in the fall, students completed a pre-program assessment with their classroom teachers (Appendix D). Students are assessed on content knowledge, perceptions of science, and personal connections to nature, wildlife, and conservation. Typically, students would complete the same assessment as a post-program evaluation, following the final field trip in the spring. Due to the COVID-19 disruption, comparative student assessments could not be completed for the 2019-2020 school year.

Following each in-person or field trip program, teachers completed an evaluation to assess the effectiveness of the program activities, educator's teaching abilities, and other components. (Appendix B) Overall, teachers rated the Outdoor Field Science program as effective in "strengthening my students science skills", "promoted critical thinking", and "worth our time outside the classroom." Audubon NM educators were also rated as

knowledgeable, professional, effective, and organized 100% of the time. Additional comments from SFPS teachers included:

“Standards-based curriculum tied to local outdoor NM resource! Wonderful!”

“Love how interactive the classroom curriculum is and how well it connects to the field trip”

“I loved the curriculum and hands-on activities”

“The Audubon School program supports our NGSS and help make science fun and engaging for my students.”

“Great field trip. Very engaging and students learned a lot through the experience.”

“The activities are well-designed and help my students to think about the different components included in an ecosystem”

Although communication with teachers in the spring was limited, due to their overwhelming burden of pivoting entirely distance-learning model, we did receive appreciative feedback for the rapid creation and deployment of life-science activities. The following quote was received from a 4th grade teacher:

“That video was so much fun! What a great way to summarize the concepts while actually showing the kids “in context” how they work. I can't wait to show this to my students next week. We are very sorry that we missed seeing you this spring, but the world changed and this video is the next best thing to going to the Randall Davey Audubon Center. Thank you for the resources!”



Photo: Education Specialist, Sally Maxwell, engages students in a video on wildlife habitat investigations.

Realignment of programs to New Mexico STEM Ready! Standards

In addition to the delivery of programs and activities, part of ANM's contract with Share with Wildlife included time for realigning the program portfolio. Throughout the winter and spring, ANM educators reflected on and realigned five programs (Birds of a Feather Explore Together, Animal Adaptations, Nature's Interconnections, Ecosystem Explorations, All About Birds) that are delivered as part of the Outdoor Field Science program. Audubon

educators attended several professional development opportunities and were able to fine-tune many of the hands-on outdoor experiences and meaning-making discussions and reflection. For instance, ANM educators further emphasized a discussion on the relationship between Pinyon Jays and Pinyon Pines to fit a series of standards focused on environmental change, animal adaptations, and human-driven solutions. Collaboration with NMDGF staff also contributed to stronger and better-aligned programming connected to conservation issues that will serve students and teachers for several years to come.

In conclusion, Audubon New Mexico is grateful for the support and flexibility of the Share with Wildlife funds and staff. We are very proud that we were still able to engage a large population of Santa Fe students through in-person programming, as well as through distance-learning activities. The continued impact of educating students on the wildlife and conservation challenges of Pinyon-Juniper forests surrounding Santa Fe is a priority and part of the mission of Audubon New Mexico and the Randall Davey Audubon Center. We look forward to continuing this partnership with NMDGF into the future.

Appendices

- A. Program Data (timing, venue, number students taught)
- B. Teacher Evaluation, Aggregate Data and Example
- C. Distance Learning Materials
- D. Student Assessment, Aggregate Data and Example

Appendix A. Program Data, 2019-2020

Date	Visit Location	Program Received	Name of School, Grade	Total # Students
9/5/2019	RDAC	Birds of a Feather Explore Together	El Camino Real Academy, 4 th Grade	19
9/5/2019	RDAC	Birds of a Feather Explore Together	El Camino Real Academy, 4 th Grade	16
9/9/2019	RDAC	Birds of a Feather Explore Together	El Camino Real Academy, 4 th Grade	20
9/9/2019	RDAC	Birds of a Feather Explore Together	El Camino Real Academy, 4 th Grade	19
9/18/2019	RDAC	Birds of a Feather Explore Together	Amy Biehl Community School, 4 th Grade	26
9/18/2019	RDAC	Birds of a Feather Explore Together	Amy Biehl Community School, 4 th Grade	25
9/19/2019	RDAC	Birds of a Feather Explore Together	Amy Biehl Community School, 4 th Grade	20
9/23/2019	RDAC	Animal Adaptations	Nina Otero Community School, 4 th Grade	25
9/24/2018	RDAC	Ecosystem Exploration	Nina Otero Community School, 5 th Grade	26
9/24/2019	RDAC	Ecosystem Exploration	Nina Otero Community School, 5 th Grade	26
10/7/2019	RDAC	Animal Adaptations	Ramirez Thomas Elementary, 3 rd Grade	19
10/8/2019	RDAC	Animal Adaptations	Ramirez Thomas Elementary, 3 rd Grade	18
10/9/2019	RDAC	Animal Adaptations	Ramirez Thomas Elementary, 3 rd Grade	21
10/16/2019	RDAC	Ecosystem Exploration	Nina Otero Community School, 5 th Grade	22
10/16/2019	RDAC	Animal Adaptations	Nina Otero Community School, 4 th Grade	24
10/17/2019	RDAC	Animal Adaptations	Nina Otero Community School, 4 th Grade	23
10/21/2019	RDAC	Ecosystem Exploration	Cesar Chavez Elementary, 4 th Grade	19
10/22/2019	RDAC	Ecosystem Exploration	Cesar Chavez Elementary, 4 th Grade	16
10/23/2019	RDAC	Ecosystem Exploration	Cesar Chavez Elementary, 4 th Grade	18
10/29/2019	RDAC	Animal Adaptations	Ramirez Thomas Elementary, 3 rd Grade	20
11/12/2019	RDAC	Ecosystem Exploration	Cesar Chavez Elementary, 4 th Grade	18
12/9/2019	School site	All About Birds	Nina Otero Community School, 4 th Grade	25
12/9/2019	School site	All About Birds	Nina Otero Community School, 4 th Grade	24

12/9/2019	School site	All About Birds	Nina Otero Community School, 4 th Grade	23
12/10/2019	School site	All About Birds	Nina Otero Community School, 5 th Grade	26
12/10/2019	School site	All About Birds	Nina Otero Community School, 5 th Grade	26
12/11/2019	School site	All About Birds	Nina Otero Community School, 5 th Grade	22
1/15/2020	School site	All About Birds	Ramirez Thomas Elementary, 3 rd Grade	19
1/16/2020	School site	All About Birds	Ramirez Thomas Elementary, 3 rd Grade	18
1/16/2020	School site	All About Birds	Ramirez Thomas Elementary, 3 rd Grade	21
1/16/2020	School site	All About Birds	Ramirez Thomas Elementary, 3 rd Grade	20
1/30/2020	School site	All About Birds	Cesar Chavez Elementary, 4 th Grade	19
1/30/2020	School site	All About Birds	Cesar Chavez Elementary, 4 th Grade	16
1/30/2020	School site	All About Birds	Cesar Chavez Elementary, 4 th Grade	18
1/30/2020	School site	All About Birds	Cesar Chavez Elementary, 4 th Grade	18
Total Students:				735

Appendix B. Aggregated Teacher Evaluation Data

I chose this educational opportunity...

To provide my students an outdoor experience	To enhance my curriculum	To help improve test scores	Another teacher signed me up	Program length	program cost	To give my students a fun day off campus	To learn new ways to teach science	Other
95%	79%	16%	5%	0%	5%	47%	74%	5%

Participant Demographic Info

Total # Students	# Adults	# Male Students	# Female Students	# African American	# White	# Hispanic or Latinx	# Asian	# Native American	# Other
391	62	173	213	8	35	327	3	7	0
		44.25 %	54.48 %	2.05%	8.95%	83.63 %	0.77%	1.79%	

Program Experience (1= not satisfied, 7=very satisfied)

Fit perfectly with our science curriculum	Strengthened my students' science skills	Encouraged critical thinking	Was worth our time outside the classroom
Average rating: 6.7	Average rating: 6.7	Average rating: 6.8	Average rating: 6.9

Educator Performance (1= not satisfied, 7=very satisfied)

Was knowledgeable and enthusiastic	Presented themselves professionally	Effective time and group management	Was well organized
Average rating: 6.9	Average rating: 6.9	Average rating: 6.9	Average rating: 6.9

Additional comments about educator performance:

- Excellent classroom management, pacing, questioning tied to curriculum
- Sally kept students interested & engaged
- Turn & talk, aka think, pair, share
- Both educators were amazing! I was thankful that my bilingual class had an educator who also spoke and understood Spanish
- They were great
- Everything is great. My students were very excited.
- Great group management. Engaging and fun activities.
- Both ladies knew what they were wanting the children to learn
- Sally is extraordinary! Thanks for your excellent management skills and appreciating my kids for all their
- Great personality! Kids enjoyed her.
- Instructor is excellent at giving directions and at giving students room to think for themselves.
- The educators are well known on their subject
- Katie was very knowledgeable and the children really enjoyed her

Overall Experience (1= not satisfied, 7=very satisfied)

I am satisfied with my experience	I felt prepared for my program ahead of time	I would recommend this program
Average rating: 6.9	Average rating: 6.9	Average rating: 6.9


Additional comments about overall experience:

- Standards-based curriculum tied to local outdoor NM resource! Wonderful!
- Love how interactive the classroom curriculum is and how well it connects to the field trip
- I loved the curriculum and hands-on activities
- Great unit to start the year before science modules arrive
- We love this field trip
- The Audubon School program supports our NGSS and help make science fun and engaging for my students.
- It is always great to come out here
- Great field trip. Very engaging and students learned a lot through the experience.
- Great program
- The activities are well-designed and help my students to think about the different components included in an ecosystem
- Thank you for welcoming our class and school

TEACHER EVALUATION

School/Group Name: _____ Grade Level: _____
Program Name: _____ Program Date: _____
Audubon Educator(s) _____

TEACHER INFORMATION:

 I am a... Grade-level science / all-subject teacher Grade-level non-science teacher
 Parent Chaperone Teacher's aide Other: _____

 I chose this educational opportunity...

to provide my students an outdoor experience because of the program length
 to enhance my curriculum because of the cost of the program
 to help improve test scores to give my students a fun day off campus
 because another teacher signed me up to learn new ways to teach science
 Other: _____

 HOW DID YOU LEARN ABOUT THIS PROGRAM? _____


 PARTICIPANT DEMOGRAPHIC INFORMATION:

TOTAL NUMBER OF STUDENTS: _____ TOTAL NUMBER OF ADULTS: _____

MALE STUDENTS: _____ # FEMALE STUDENTS: _____ # OTHER GENDER STUDENTS: _____

STUDENTS' ETHNICITY: (Please mark # of students) _____ African American _____ White
_____ Hispanic or Latino/a _____ Asian _____ Native American _____ Other

Please rate your experience in the following areas from 1 (not satisfied) to 7 (very satisfied).

 PROGRAM EXPERIENCE:	1	2	3	4	5	6	7	N/A
Fit perfectly with our science curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strengthened my students' science skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encouraged critical thinking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was worth the time out of the classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 WHAT CHANGE(S) DO YOU RECOMMEND FOR IMPROVING THIS PROGRAM?

➔ EDUCATOR PERFORMANCE:	1	2	3	4	5	6	7	N/A
Was knowledgeable and enthusiastic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presented themselves professionally.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effective time and group management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was well organized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

➔ WHAT COULD THE EDUCATOR WORK ON, OR WHAT DID THEY DO WELL?

➔ OVERALL EXPERIENCE:	1	2	3	4	5	6	7	N/A
I am satisfied with my experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt prepared for my program ahead of time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would recommend this program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

➔ OVERALL COMMENTS WE CAN SHARE WITH OTHERS REGARDING OUR PROGRAMS. (THIS HELPS US CONTINUE TO OFFER OUR PROGRAMS):

➔ WHAT OTHER RESOURCES WOULD YOU WANT FROM AUDUBON? (Please mark all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Professional development for educators | <input type="checkbox"/> In-class programs with Audubon educators |
| <input type="checkbox"/> Curriculum extensions for your classroom (pre/post science activities) | <input type="checkbox"/> Out-of-School programs with Audubon educators or activities |
| <input type="checkbox"/> Curriculum extensions to non-science subjects | <input type="checkbox"/> Relevant Materials (books, posters, magazines, etc.) |

Comments on how Audubon NM can support you and your students:

Appendix C: Distance Learning Materials

All distance-learning materials are available online to download:

<https://nm.audubon.org/conservation/educational-resources>

Workbook #1:

[Adapt To Survive, Home Activity Workbook \(English\)](#)

[¡Adáptate para sobrevivir! Cuaderno de ejercicios para actividades en casa \(Español\)](#)

Workbook #2:

[Backyard Habitat Explorer, Home Activity Workbook \(English\)](#)

[Explorador del hábitat en mi patio, Cuaderno de ejercicios para actividades en casa \(Español\)](#)

A video to accompany this activity can be found [here](#) (Spanish and English subtitles).



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Home Activity Workbook

Adapt to Survive!



Name: _____

Date: _____

Time: _____

Weather: _____

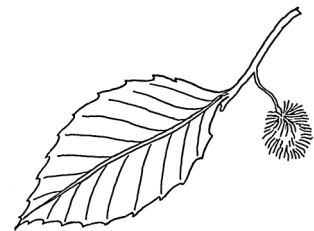
Adapt to Survive!

An **adaptation** is something special about an animal's **body or behavior** that helps it to survive in its **habitat**. For example, woodpeckers have strong, pointy beaks for drilling holes in tree trunks and looking for insects under the bark, hummingbirds migrate long distances, from northern Canada to Mexico, in search of food every winter. Hawks have sharp talons to help them catch their prey mid-flight.

Activity #1 (Beginner): Nature Observations

Materials: Pencil

Challenge: Look out your window or take a walk in your neighborhood to observe bird adaptations in real life. Write or draw your observations.



What do you see?

What do you hear?

What do you smell?

Stand really still and silent for a few minutes. Do you see or hear any birds?

You might see them hopping around on the ground, perched on a tree branch, soaring high above you, or flying past your window. What do these birds look like? What adaptations do you see that help these birds survive?

Write or draw your observations.

Adapt to Survive!

Activity #2 (Intermediate): Design a Bird

Materials: Recycled materials, tape, scissors, pencil

Challenge: Design a bird that could survive in New Mexico in the summer.

What is New Mexico like in the summer time? Write a list of the challenges that a bird might face in the heat of a New Mexico summer.

Now, write a list of body parts or behaviors that would help this bird survive in New Mexico.



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Draw a picture of your bird design. What special adaptations will you give the bird to help it survive?

Now that you have drawn your design, build your bird out of materials you find around the house! Look for useful items in the recycling bin. Make sure they are clean and safe to use.

Adapt to Survive!

Activity #3 (Advanced): Bon Appetweet

Materials: Pencil, clock or watch, assorted “beak” and “bird food” materials (see below), bowl

Challenge: Explore how different bird beaks are adapted to eating certain types of food.

In this activity, you are going to practice being a bird. In each round, you will have a new type of “beak”. Some possible “beaks” you could use include tweezers, a fork, tongs, a clothespin, a bag clip, a spoon, or anything else from around your home that reminds you of a bird beak! Choose 3 different types of beaks.

In each round, you will try to eat three different types of bird food. Some types of “bird food” that you could use include pennies, straws, craft beads, pieces of paper cut up into little strips or anything else from around your home that reminds you of bird food! Choose 3 different types of food, and try to choose foods that are all shaped differently from one another. In each round, there are three stages, each of which lasts 20 seconds long. For each stage, you will time yourself for 20 seconds, trying to “eat” as many pieces of one type of “food” in each stage. You have successfully “eaten” a piece of “food” once you move it into the bowl or another container representing your “nest”.

Before you start the round, record what type of beak and what foods you are using on the following table. After each stage, record how many pieces of food you “ate” in those 20 seconds.

Ready... set... go!

Round	Stage	Beak	Food	Total Number Eaten
1	A			
	B			
	C			
2	A			
	B			
	C			
3	A			
	B			
	C			

Which “foods” were the easiest to “eat” with your different beaks? Which were most difficult?

If your preferred source of food disappeared, what are some things you could do to adapt to survive?

What did you learn?

What makes a bird a bird? Can you list 5 things that makes birds different from other animals?

- 1.
- 2.
- 3.
- 4.
- 5.

Tell 3 people about what you learned! Find someone that you live with or call a friend or family member and tell them what you have learned. Ask them if they can see any birds where they live. What adaptations do *they* observe? Write or draw them here.

Take a picture of the bird you built and send it to your teacher! Ask an adult to send it to Audubon educators at sally.maxwell@audubon.org. We would love to see your creations!

Adapt to Survive!

Parent/Caregiver Background Information

An adaptation is something special about an animal's body or behavior that helps it survive in its habitat. Birds have many special adaptations including their feathers, feet, beaks, hollow bones, and their nest-building and egg-laying behaviors. Depending on the bird's habitat (a forest, a shoreline, a desert, etc.), its feet, beak, body shape, nest shape, and eggs may look very different from those of other birds living in other habitats. They also may do very different things to find food and mates and to protect their young. For example, a duck has webbed feet to help it swim. An eagle has a sharp, hooked beak to help it tear apart meat. All birds have hollow bones, which make their bodies very light, allowing them to fly. In this activity, your child will be exploring different bird adaptations through observations, a design challenge, and a game.

Materials Required

- Assorted materials from your recycling bin
- Scissors
- Clock or timer
- Pencils, colored pencils, or markers
- Tape
- Assorted household items for Bon Appetweet Game

Digital Resources

- Audubon Adventures Website, http://www.audubonadventures.org/wild_about_birds_kids.htm
- Audubon for Kids Website, <https://www.audubon.org/get-outside/activities/audubon-for-kids>
- Cornell Lab of Ornithology K-12 Corner, <https://www.birds.cornell.edu/k12/science-nature-activities-for-cooped-up-kids/>
- eBird (see who has been spotted in your area recently!), <https://ebird.org/home>

Additional Resources

- Storybook: *Ruby's Birds* by Mya Thompson
- Storybook: *What makes a bird a bird?* by May Garelick

This activity is aligned to your child's school science standard! Through this activity they will...

- 3rd-5th Grade: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem (3-5-ETS1-2).
- 3rd Grade: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all (3-LS4-3).
- 4th Grade: Construct an argument that plants and animals have internal and external structures that function to support growth, survival, behavior, and reproduction. (4-LS1-1)

This workbook is supported and funded by the New Mexico Department of Game and Fish's Share with Wildlife Program.



Example of Activity #3 Bon Appetweet Table

Round	Stage	Beak	Food	Total Number Eaten
1	A (20s)	Tongs	Pennies	4
	B (20s)		Beans	9
	C (20s)		Straws	13
2	A (20s)	Bag Clip	Pennies	8
	B (20s)		Beans	17
	C (20s)		Straws	25
3	A (20s)	Tweezers	Pennies	16
	B (20s)		Beans	3
	C (20s)		Straws	7



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Cuaderno de ejercicios para actividades en casa

*¡Adáptate para
sobrevivir!*



Nombre: _____

Fecha: _____

Hora: _____

Clima: _____

¡Adáptate para sobrevivir!

Una **adaptación** es algo especial del cuerpo o comportamiento de un animal que le ayuda a sobrevivir en su **hábitat**. Por ejemplo, los pájaros carpinteros tienen picos fuertes y puntiagudos para perforar agujeros en troncos de árboles y buscar insectos bajo la corteza de un árbol. Los colibríes migran largas distancias, desde el norte de Canadá hasta México en busca de alimentos, cada invierno. Los halcones tienen garras afiladas para ayudarles a atrapar a su presa en vuelo.

Actividad #1 (nivel principiante): Observaciones de la naturaleza

Materiales: Lápiz

Desafío: Mira por la ventana o da un paseo por tu vecindario para observar adaptaciones de aves en la vida real. Escribe o dibuja tus observaciones.



¿Qué ves?

¿Qué oyes?

¿Qué hueles?

Quédate quieto y callado durante unos minutos. ¿Ves u oyes pájaros? Es posible que los veas saltando por el suelo, volando por encima de ti, o volando más allá de tu ventana. ¿A qué se parecen estos pájaros? ¿Cuáles adaptaciones ves que ayudan a estas pájaros a sobrevivir? Escribe o dibuja tus observaciones.



¡Adáptate para sobrevivir!

Actividad #2 (nivel intermedio): Diseña un pájaro

Materiales: Materiales reciclados, cinta adhesiva, tijeras, lápiz

Desafío: Diseña un pájaro que podría sobrevivir en un verano en Nuevo México.

¿Cómo es Nuevo México en el verano? Escribe una lista de los desafíos que un pájaro podría enfrentar en el calor de un verano de Nuevo México.

Ahora, escribe una lista de partes del cuerpo o comportamientos que ayudarían a este pájaro a sobrevivir en Nuevo México.



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Dibuja tu diseño del pájaro. ¿Qué adaptaciones especiales le darás al pájaro para que lo ayude a sobrevivir?

Ahora que has dibujado tu diseño, ¡construye tu pájaro con materiales que encuentres alrededor de tu casa! Busca artículos útiles en los recipientes de reciclaje.

¡Adáptate para sobrevivir!

Actividad #3 (nivel avanzado): “Bon Appetweet” ¡Buen apetito!

Materiales: Lápiz, reloj, diversos materiales de "pico" y "alimento para pájaros" (ver más abajo)

Desafío: Explora cómo diferentes picos de aves se adaptan a comer ciertos tipos de comida.

En esta actividad vas a practicar ser un pájaro. En cada ronda tendrás un nuevo tipo de "pico". Algunos posibles "picos" que podrías usar incluyen pinzas, un tenedor, pinzas de cocina, un gancho para colgar ropa, un sujetador para bolsas, una cuchara o cualquier otra cosa que te encuentres alrededor de tu casa que te recuerde a un pico de pájaro! Elige 3 tipos diferentes de picos.

En cada ronda, tendrás que tratar de comer tres tipos diferentes de comida para aves. Algunos tipos de "comida de pájaros" que podrías utilizar incluyen centavos, frijoles, arroz, fideos, perlas/cuentas, o cualquier otra cosa que encuentre alrededor de tu casa que te recuerde a la comida para aves! Elige 3 tipos diferentes de alimentos, y trata de elegir alimentos que tienen una forma muy diferente entre sí. En cada ronda, hay tres etapas. Cada etapa dura 20 segundos. Estarás cronometrando tu tiempo por 20 segundos, tratando de comer lo mas posible de cada tipo de comida.

Antes de comenzar la ronda, escribe qué tipo de pico y alimentos estarás utilizando en la tabla de abajo. Después de cada etapa, registra cuántas piezas de comida comiste en esos 20 segundos.

¡En sus marcas, listos fuera!

Ronda	Etapas	Pico	Comida	Total de número de piezas comidas
1	A			
	B			
	C			
2	A			
	B			
	C			
3	A			
	B			
	C			

¿Qué alimentos eran los más fáciles de comer con tus diferentes picos?
 ¿Cuales eran los más difíciles?

Si su alimento preferido desapareció, ¿qué podría hacer para adaptarte a sobrevivir?

¿Qué aprendiste?

¿Qué hace que un pájaro sea un pájaro? ¿Puedes nombrar 5 cosas que hacen que las aves sean especiales de otros animales?

1.

2.

3.

4.

5.

¡Cuéntale a 3 personas lo que aprendiste! Busca a alguien con quien vivas o llama a un amigo o familiar y dile lo que has aprendido.

Pregúntales si pueden ver algunas de las aves donde viven. ¿Qué adaptaciones observan? Escríbelos o dibújalos aquí.

Toma una foto del pájaro que diseñaste y envíelo a su maestra/o! Pide a un adulto que la envíe a los educadores de Audubon por sally.maxwell@audubon.org. ¡Nos encantaría ver tus creaciones!

¡Adáptate para sobrevivir!

Información para los padres /cuidadores

Una adaptación es algo especial sobre el cuerpo o el comportamiento de un animal que le ayuda a sobrevivir en su hábitat. Las aves tienen muchas adaptaciones especiales, incluyendo sus plumas, pies, picos, huesos huecos, y la manera en que construyen sus nidos y ponen huevos. Dependiendo del hábitat de las aves (un bosque, una costa, un desierto, etc.) sus pies, pico, forma de cuerpo, forma de nido, y los huevos pueden verse muy diferentes entre sí. También pueden hacer cosas muy diferentes para encontrar alimentos, un compañero, y para proteger a sus crías. Por ejemplo, un pato tiene los pies palmeados para ayudarlo a nadar. Un águila tiene un pico afilado y enganchado para ayudarlo a desgarrar la carne. Todas las aves tienen huesos huecos que hacen que sus cuerpos sean muy ligeros, permitiéndoles volar. En esta actividad, su hijo/a explorará diferentes adaptaciones de aves a través de observaciones y un desafío de diseño.

Materiales requeridos

- Materiales surtidos de su contenedor de reciclaje
- Tijeras
- Reloj
- Lápices, lápices de color, o marcadores
- Cinta adhesiva
- Materiales para el juego 'Bon Appetweet'

Recursos digitales

- Sitio de web 'Aventuras de Audubon', http://www.audubonadventures.org/wild_about_birds_kids.htm
- Sitio de web 'Audubon para niños' en español, https://www.audubon.org/es/audubon_para_ninos
- Laboratorio de ornitología de Cornell, <https://www.birds.cornell.edu/k12/science-nature-activities-for-cooped-up-kids/>
- eBird (ver quién ha sido visto en su área recientemente!), <https://ebird.org/home>

Recursos adicionales

- Libro de cuentos: *Ruby's Birds* por Mya Thompson
- Libro de cuentos: *What makes a bird a bird?* por May Garelick

¡Esta actividad está alineada con el estándar de ciencias escolares de su hijo/a! A través de esta actividad ellos...

- 3er-5o Grado: Generarán y compararán múltiples soluciones posibles de un problema basado que cual es mas probable que cumpla con los criterios y restricciones del problema (3-5-ETS1-2).
- 3er grado: Construirán un argumento con evidencia de que en un hábitat particular algunos organismos pueden sobrevivir bien, algunos sobreviven no tan bien, y algunos no pueden sobrevivir en absoluto (3-LS4-3).
- 4o Grado: Construirán un argumento de que las plantas y los animales tienen estructuras internas y externas que funcionan para apoyar el crecimiento, la supervivencia, el comportamiento y la reproducción. (4-LS1-1)

Este cuaderno de ejercicios es apoyado y financiado por el Programa de Acción con Vida Silvestre del Departamento de Caza y Pesca de Nuevo México.



Ejemplo de Actividad #3 “Bon Appetweet”

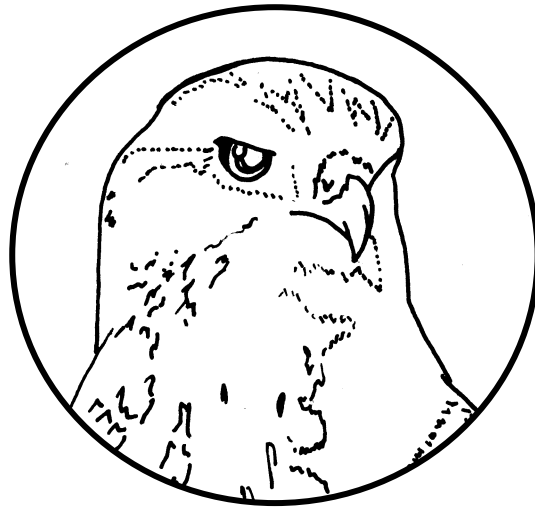
Ronda	Etapa	Pico	Comida	Total de número de piezas comidas
1	A (20s)	Tenacillas	Centavos	4
	B (20s)		Fríjoles	9
	C (20s)		Pajitas	13
2	A (20s)	Clíp de bolsa	Centavos	8
	B (20s)		Fríjoles	17
	C (20s)		Pajitas	25
3	A (20s)	Pinzas	Centavos	16
	B (20s)		Fríjoles	3
	C (20s)		Pajitas	7



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Home Activity Workbook

*Backyard Habitat
Explorer*

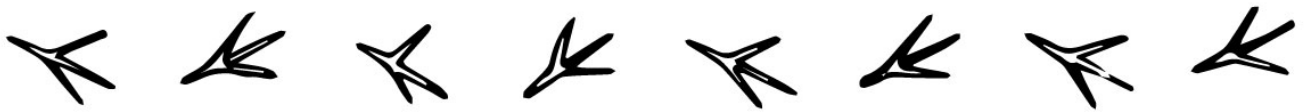


Name: _____

Date: _____

What is a habitat?

A plant or animal's **habitat** is a place that provides everything they need to survive like **food, clean water, shelter, and space** to move around. Just like your home or neighborhood, an animal's habitat has all the basic things that it needs to live and grow.



Activity #1 (Beginner): Habitat Investigation

Challenge: Look out your window or take a walk in your neighborhood to investigate the local habitat. First, collect your habitat's background information below. This information is important to understand the big picture. You can either estimate things like temperature or look it up online. Second, look for the different parts of a habitat and record your findings in the table on the next page.

Date: _____ Time: _____ Temperature: _____

Weather Conditions: _____

Name of the Habitat (e.g., My backyard, Frenchy's Field, my neighborhood arroyo):

General Description of the Area (what does this place look like? Tall trees along a street? One bush next to the front door?):



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Task: Look around carefully for signs of animals and plants. What types of wildlife live here? Do you see tracks, scat (poop), feathers, nests, or dens/holes? What kinds of food, water, or shelter are available for the plants and animals that live here?

Write a list or draw all the things that you find and write them in the correct box.

Sources of Food	Sources of Water
Places to Shelter/Hide	Evidence of Wildlife

Activity #2 (Intermediate): Habitat Mapping

Challenge: Draw a map of an animal's habitat. Your drawing should include food, water, and shelter for whichever animal you choose. You can pick an animal who lives in your neighborhood, your favorite animal, or a different species that lives in New Mexico. You can also draw the habitat around your yard, balcony, or out your window.

Map-making tips: You can draw your map as a landscape (like you're looking out at a picture) or from above (like a bird's or drone's perspective). Think about the size of the objects you are drawing compared to each other. Is your animal the same size as a building, half as big, or smaller?

Backyard Habitat Explorer

Activity #3 (Advanced): Habitat Hero

Challenge: Choose an animal that might live in your neighborhood or could survive in that habitat. Look at your habitat map in Activity #2. Is there anything missing that would make it a better home for your animal? **What are 3 things you could add to your map, or the habitat outside your home, to make it better for wildlife?** Add your ideas to your Activity #2 drawing, or write them down below:

My animal is a(n) _____

Improvement #1:

Improvement #2:

Improvement #3:



The Story of the Pinyon Jay

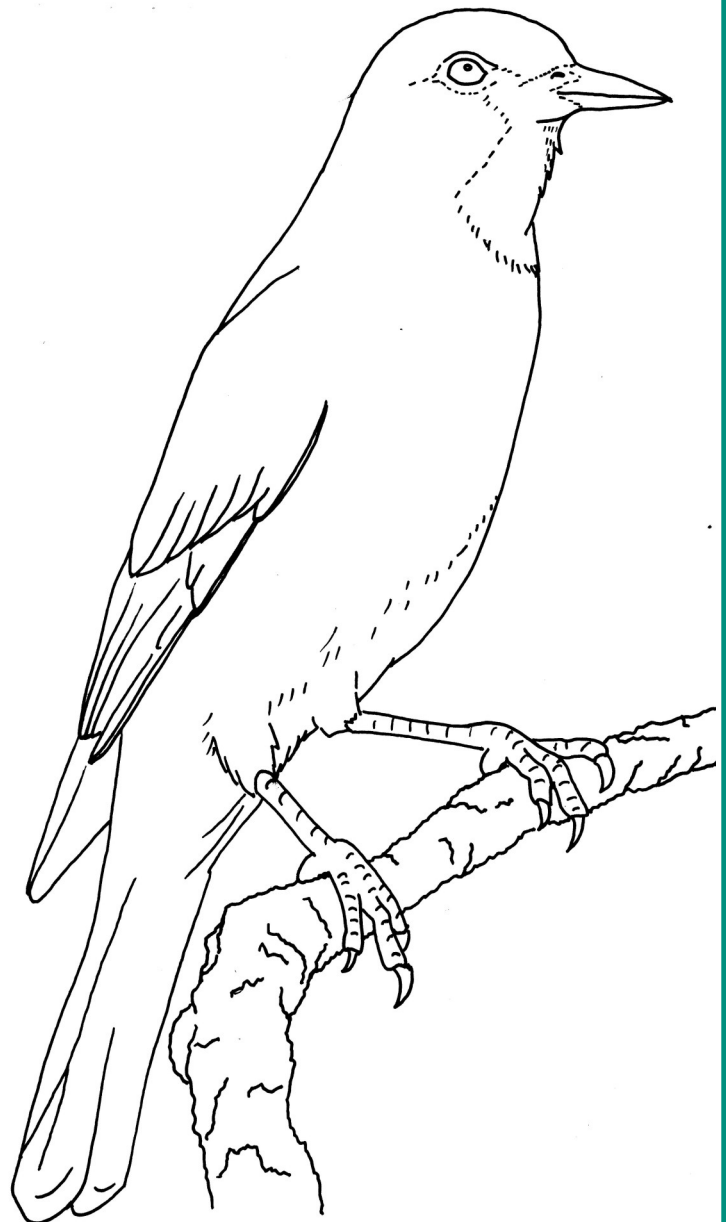
In the mountains above Santa Fe, surrounding the Randall Davey Audubon Center, there is a special type of habitat called a **Pinyon-Juniper Forest**. This habitat is full of Pinyon Pine and Juniper trees that provide all the basic necessities for many types of plants and animals.

One of those animals is a beautiful blue bird called a **Pinyon Jay**. These birds live in big, noisy family groups that can be heard calling and squawking across a canyon or forest. Pinyon Jays rely on the Pinyon Pine trees in many ways: they sleep and build nests in the oldest trees, and, like many New Mexicans, they eat and store the delicious pine nuts (*piñones*) using their sharp beak. The jay's behavior also helps spread seeds throughout the forest, allowing new Pinyon Pines to sprout and grow. The birds and trees need each other to survive.

Several years ago, Santa Fe and most of northern New Mexico suffered a severe **drought**, or a time when there was almost no rain or water. Because the drought weakened the trees, insects were also able to eat and kill many trees throughout the forest.

The combination of the drought and the beetle was very hard for the forest, and many trees died. Pinyon pines were especially hurt, so now there are fewer pines out in the forest. Right now, the Pinyon Jay's habitat is in danger.

What do you think will happen to the jays and other wildlife if nothing changes? What can we do to help and protect them?



Backyard Habitat Explorer

Parent/Caregiver Background Information

From the cold polar regions to the riotous green growth of a tropical rainforest, Earth is quilted with biomes—vast areas shaped by climate, geography, and plant life. The prairie biome, for example, is marked by hot, dry weather and wide-open grasslands. The temperate forest biome is a land of evergreen forests.

Within each biome are environments called habitats—the places where animals and plants of particular species live. North America’s forest biome, for example, contains a habitat called pinyon-juniper, home to animals such as Black Bears, Mule Deer, and birds like Pinyon Jays and Juniper Titmice. A habitat offers animals the basics of life: sufficient food, clean water, and shelter. Many animals live in the same habitat year-round, so they also raise their young in it. Other animals migrate to different habitats after their breeding season is over. Some species, such as coyotes, are “generalists” that can make a living in almost any habitat. Most species, however, require certain kinds of habitat in order to survive, let alone thrive (such as Pinyon Jays and other birds). Efforts to conserve and restore wildlife populations go hand-in-hand with conserving and restoring the habitats in which they live.

This workbook is designed to introduce students to the concept of habitats and connections between the natural environment and the wildlife that depends on it. Habitats exist in wild forest, rivers, grasslands, and even our own neighborhoods. Students are encouraged to safely explore the spaces around where they live and think about how they share them with plants and wildlife. Lastly, students should consider ways they can be advocates for conservation and the environment, both in Santa Fe, New Mexico, and around the world.

Materials:

- Pencils, colored pencils, or markers
- Extra paper for map-making (optional)

Digital Resources

- *At Home In A Habitat by Audubon Adventures!* http://netapp.audubon.org/AudubonAdventures/habitat_kids.htm
- Audubon for Kids Website, <https://www.audubon.org/get-outside/activities/audubon-for-kids>
- This workbook is available as a downloadable PDF in English and Spanish on Audubon NM’s website (nm.audubon.org)

Additional Resources

- Storybook: *The Magic School Bus Hops Home: A Book About Animal Habitats*, also available as [Online story time](https://youtu.be/tj_SO2J87Fg) on YouTube (https://youtu.be/tj_SO2J87Fg)

Alignment to Next Generation Science Standards

- 3rd-5th Grade: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem (3-5-ETS1-2).
- 3rd Grade: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all (3-LS4-3).
- 4th Grade: Construct an argument that plants and animals have internal and external structures that function to support growth, survival, behavior, and reproduction. (4-LS1-1)



Share with Wildlife

Created and published by the Education Team at Audubon New Mexico, including Katie Weeks, Sally Maxwell, and Rachel Bryant. Thanks to Kemely Gomez for Spanish translation. Swainson's Hawk and Pinyon Jay images are illustrated by Katie Weeks

This workbook is supported and funded by the New Mexico Department of Game and Fish's Share with Wildlife Program. It is also a part of the Santa Fe Outdoor Education Collaborative, of which Audubon New Mexico is a founding member.



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Cuaderno de ejercicios para actividades en casa

*Explorador del hábitat
en mi patio*

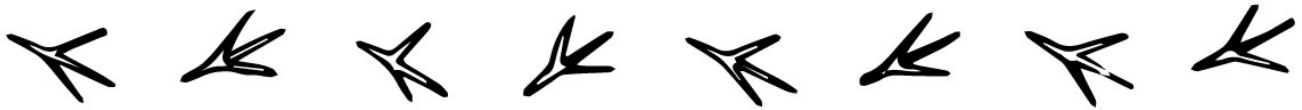


Nombre: _____

Fecha: _____

¿Qué es un hábitat?

El hábitat de una planta o animal es un lugar que proporciona todo lo que necesitan para sobrevivir como **alimento, agua limpia, refugio, aire limpio y espacio para moverse**. Al igual que tu hogar o vecindario, el hábitat de un animal tiene todas las cosas básicas que necesita para vivir y crecer.



Actividad #1 (nivel principiante): Investigación de un hábitat

Reto: Mira por una ventana o da un paseo por tu vecindario para investigar el hábitat local. Primero, toma la información de tu hábitat que esta disponible continuación. Esta información, es información científica importante para entender el panorama general. Puedes estimar cosas como la temperatura, o buscarlo en línea. Segundo paso, busca las diferentes partes de un hábitat y escribe tus hallazgos en la tabla de la página siguiente.

Fecha: _____ Hora: _____ Temperatura: _____

Weather Conditions: _____

Nombre del hábitat (e.g., *Mi patio, el parque Frenchy's Field, el arroyo en mi barrio*):

Descripción del área (*¿cómo se ve? ¿Arboles altos a lo largo de una calle? ¿Un arbusto al lado de la puerta principal?*)



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Tarea: Busca cuidadosamente señales de animales y plantas. ¿Qué tipos de vida silvestre viven aquí? ¿Ves huellas, eses fecales (popó), plumas, nidos o guaridas/agujeros? ¿Qué tipos de alimentos, agua o refugio hay disponibles para las plantas y los animales que viven aquí?

Escribe una lista o dibuja todas las cosas que encuentres y escríbelas en el cuadro correcto.

Fuentes de comida	Fuentes de agua
Lugares de refugio o protección:	Evidencia de vida silvestre

Actividad #2 (nivel intermedio): Hacer un mapa del hábitat

Reto: Dibuja un mapa del hábitat de un animal. Tu dibujo debe incluir comida, agua y refugio para el animal que elijas. Puedes elegir un animal que viva en tu vecindario, un animal favorito o una especie diferente que viva en Nuevo México. También puedes dibujar el hábitat del alrededor de tu patio, balcón o de tu ventana.

Consejos para hacer mapas: Puedes dibujar tu mapa como un paisaje (como si estuvieras mirando una imagen) o desde arriba (como la perspectiva de un pájaro o un dron desde arriba). Piensa en el tamaño de los objetos que estás dibujando en comparación entre sí. ¿Tu animal es del mismo tamaño que un edificio, solo la mitad de grande o más pequeño?

Explorador del hábitat en mi patio

Actividad #3 (nivel avanzado): Héroe del hábitat

Reto: Elige un animal que pueda vivir en tu vecindario o que pueda sobrevivir en esa hábitat. Mira el mapa de tu hábitat de la actividad #2. ¿Le falta algo que lo haga un mejor hogar para tu animal? ¿Cuáles son 3 cosas que podrías agregar a tu mapa, o el hábitat a fuera de tu casa, para hacerlo mejor para la vida silvestre?

Agrega tus ideas a tu dibujo de la actividad #2, o escríbelas a continuación :

Mi animal es un _____

Mejora #1:

Mejora #2:

Mejora #3:



La historia de la chara piñonera

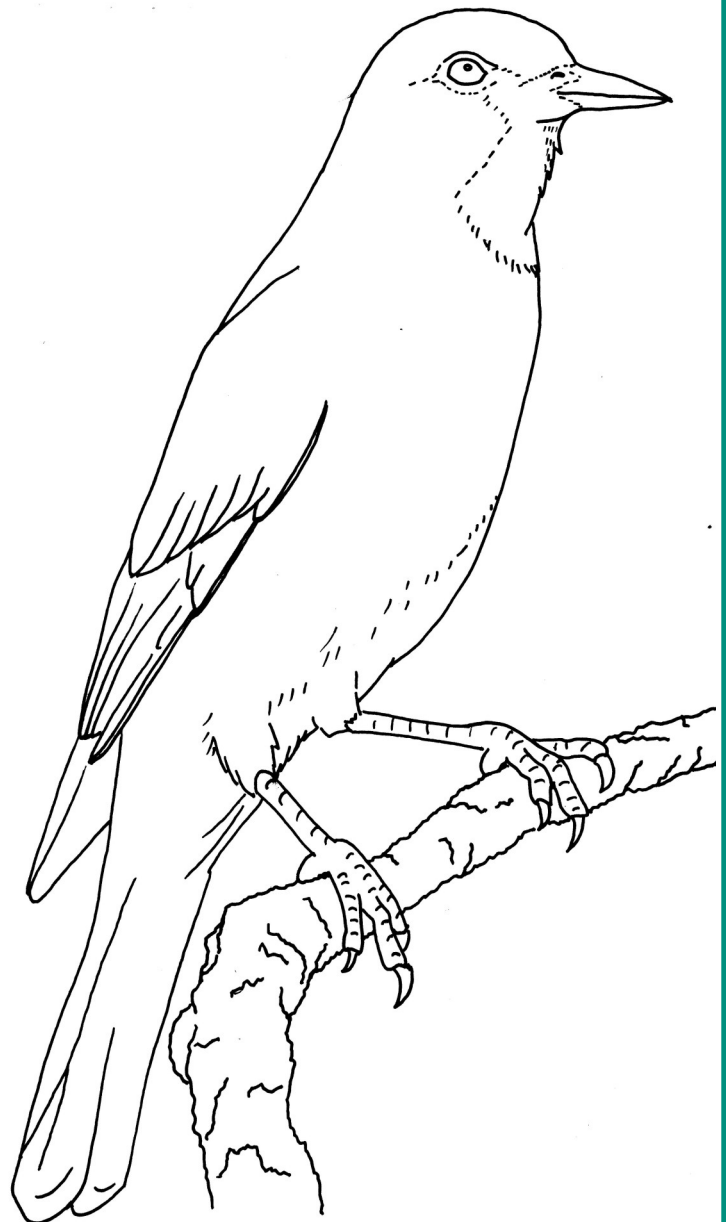
En las montañas sobre Santa Fe, que rodean el Randall Davey Audubon Center, hay un tipo especial de hábitat llamado **bosque piñón-enebro/junípero**. Este hábitat está lleno de piñones y árboles de enebro/junípero que proporcionan todas las necesidades básicas para muchos tipos de plantas y animales.

Uno de esos animales es un hermoso pájaro azul llamado **chara piñonera**. Estas aves viven en grandes y ruidosos grupos familiares que se pueden escuchar llamando y chillando a través de un cañón o bosque. Las charas piñoneras dependen de los piñones en muchas maneras: duermen y construyen nidos en los árboles más viejos, y, como muchos nuevomexicanos, comen y almacenan los deliciosos piñones usando su pico afilado. El comportamiento de una chara piñonera también ayuda a esparcir semillas por todo el bosque, permitiendo que nuevos piñones broten y crezcan.

Hace varios años, en Santa Fe y la mayor parte del norte de Nuevo México sufrieron una severa sequía, o una época en la que casi no había lluvia ni agua. Debido a que la sequía debilizó los árboles, los insectos se comieron y mataron a muchos árboles en todo el bosque.

La combinación de la sequía y el escarabajo fue muy difícil para el bosque, y muchos árboles murieron. Los piñones fueron especialmente dañados, así que ahora hay menos piñones en el bosque. En este momento, el hábitat de la chara piñonera está en peligro.

¿Qué crees que les pasará a las charas piñoneras y a otras especies silvestres si nada cambia? ¿Qué podemos hacer para ayudarlos y protegerlos?



Información para los padres

Desde las regiones polares frías, hasta el crecimiento desenfadado de vegetación en una selva tropical, la Tierra está acolchada con biomas, (grandes áreas conformadas por el clima, la geografía y la vida vegetal). El bioma de una pradera, por ejemplo, está marcada por el clima cálido y seco y con grandes prados. El bioma de un bosque boreal es un terreno con árboles de hojas perenne.

Dentro de cada bioma hay ambientes llamados hábitats, los lugares donde viven animales y plantas de especies particulares. El bioma boreal de Norteamérica, por ejemplo, contiene un hábitat llamado piñón-enebro/junípero, hogar de animales como los osos negros, los venados mula y aves como la chara piñonera y carbonero de juníperos.

Un hábitat ofrece a los animales lo básico de la vida: suficiente comida, agua limpia y refugio. Muchos animales viven en el mismo hábitat durante todo el año, por lo que también crían a sus crías en él. Otros animales migran a diferentes hábitats después de que termina su temporada de reproducción. Algunas especies, como los coyotes, son "generalistas" que pueden sobrevivir en casi cualquier hábitat. Sin embargo, la mayoría de las especies requieren ciertos tipos de hábitat para sobrevivir, y sin mencionar la posibilidad de poder prosperar (como la chara piñonera y otras aves). Los esfuerzos para conservar y restaurar las poblaciones de vida silvestre van de la mano con la conservación y restauración de los hábitats en los que viven.

Este librito de actividades está diseñado para introducir a los estudiantes al concepto de hábitats y conexiones entre el medio ambiente y la vida silvestre que dependen del hábitat. Los hábitats existen en bosques salvajes, ríos, pastizales, e incluso en nuestros propios vecindarios. Alentamos a los estudiantes a explorar con seguridad los espacios del alrededor de donde viven y pensar en cómo ellos comparten con las plantas y la vida silvestre. Por último, los estudiantes deben considerar maneras en que pueden ser defensores de la conservación y el medio ambiente, tanto en Santa Fe, Nuevo México, como en todo el mundo.

Materiales:

Lápices, colored pencils, or markers

Extra paper for map-making (optional)

Recursos Digitales:

- *At Home In A Habitat by Audubon Adventures*; Includes more activities, student magazine, and online game http://netapp.audubon.org/AudubonAdventures/habitat_kids.htm
- **Audubon Para Niños**: actividades gratis; nueva temas publica cada semana <https://www.audubon.org/get-outside/activities/audubon-for-kids>
- Descarga este cuaderno o mira un video de las actividades en el sitio web de Audubon NM <http://nm.audubon.org/conservation/educational-resources>
- Libro de cuentos: *The Magic School Bus Hops Home: A Book About Animal Habitats*, También, en YouTube (https://youtu.be/tj_SO2J87Fg)

Alineado a los Next Generation Science Standards

- 3rd-5th Grade: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem (3-5-ETS1-2).
- 3rd Grade: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all (3-LS4-3).
- 4th Grade: Construct an argument that plants and animals have internal and external structures that function to support growth, survival, behavior, and reproduction. (4-LS1-1)

Creado y publicado por el departamento del educación de Audubon New Mexico, incluyen Katie Weeks, Sally Maxwell, y Rachel Bryant.

Gracias a Kemely Gomez para la traducción a español.

Los dibujos del aguililla de Swainson y la chara piñonera ilustran por Katie Weeks.

Este cuaderno es apoyado y financiado por el programa de Share with Wildlife del New Mexico Department of Game and Fish. También es un parte del Santa Fe Outdoor Education Collaborative; Audubon New Mexico es un miembro fundador.



Share with Wildlife



Appendix D. Student Assessment

Aggregated Data:

	Statement	Average Score (5=strongly agree, 1=strongly disagree)
Question 1.1	Humans are a part of the natural world.	4.4
Question 1.2	I like to be outside when learning science.	4.3
Question 1.3	I like to be inside when learning science.	3.6
Question 1.4	I enjoy being outdoors.	4.6
Question 1.5	I am in nature when I am on the playground.	4.1
Question 1.6	I am in nature when I am in an arroyo.	4.0
Question 1.7	I am in nature when I am in the forest.	4.5
Question 1.8	Being outside in nature makes me feel peaceful.	4.4
Question 1.9	My actions will make the natural world different.	3.9
Question 1.10	Science is hard.	2.7
Question 1.11	Science is helpful in understanding nature.	4.3

Question 2: What job do you want when you grow up?

Type of Job	Total number of responses	% of responses
Science related	58	27%
Sports	15	7%
Entertainment	11	5%
Teacher	17	8%
Police Officer	28	13%
Other	71	33%

Question 3. Look at the picture: What are two adaptations that help this animal survive?

Average score: 0.77 out of 3, most students were not able to identify 1 or 2 logical adaptations for the rattlesnake.

Question 4. Draw a picture of a scientist

Qualities of drawing	Total number of responses	Percentage of total responses
Male	91	65%
Female	40	29%
Sex unknown	10	7%
Involved Tools	46	33%
Indoors	14	10%
Outdoors	4	3%
Animals	4	3%
Specific Scientist's Name	11	8%

Name: _____ Date: _____






Teacher & School: _____



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Think about it!

1. **Multiple Choice.** Check the box that best matches what you think:

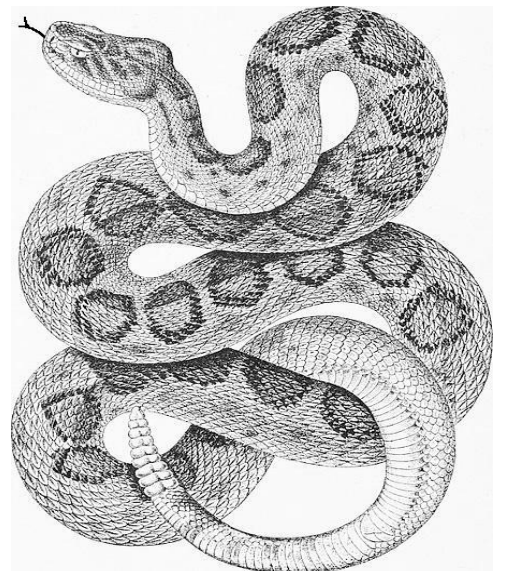
	Strongly agree 	Agree 	Neutral 	Disagree 	Strongly Disagree 
Humans are a part of the natural world.					
I like to be outside when learning science.					
I like to be inside when learning science.					
I enjoy being outdoors.					
I am in nature when I am on the playground.					
I am in nature when I am in an arroyo.					
I am in nature when I am in the forest.					
Being outside in nature makes me feel peaceful.					
My actions will make the natural world different.					
Science is hard.					
Science is helpful in understanding nature.					

2. What job do you want when you grow up? _____

3. **Look at the picture:** What are two adaptations that help this animal survive?

(1) _____

(2) _____



4. On the back side: draw a picture of a scientist.