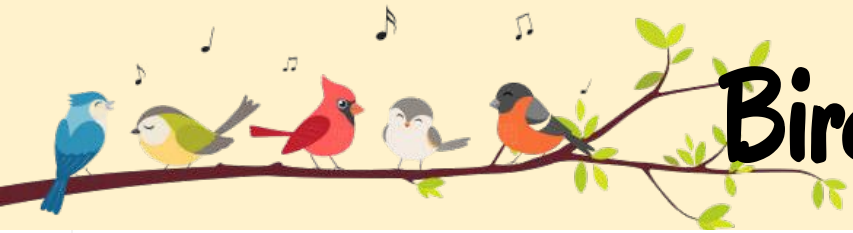


Bird Buddies Summer Reading

Elementary Families,

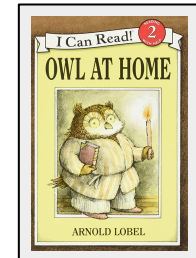
Amherst County Public Schools is excited to offer a bird-themed reading adventure packet for elementary students and families to extend learning opportunities in Summer 2023!

The best way to get kids learning is to build on their curiosity and interests. Every time you pair a book with an experience, you are giving children an opportunity to learn more about their world. Interesting experiences give kids a broader framework for new information they might encounter in books. When kids have lots of experiences to draw on, they have a better chance of making a connection with what they read!

Each child PreK-5 will receive a bird-themed book, as well as this **Bird Buddies Summer Reading** activity packet. In this packet, you will find information to build background knowledge, hands-on activities to engage children in interesting experiences, writing opportunities, and word play activities. We've designed the packet to be user-friendly and adaptable. You can use the materials each day for five days in a row, or once a week for five weeks, or any other way you like to add fun learning experiences to your summer.

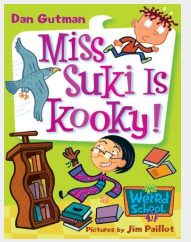
By engaging children in literacy activities over the summer, we give them opportunities to build background knowledge, deepen vocabulary, improve reading — and be ready in the fall for a successful school year. Get ready to take flight as we learn more about the world of birds!

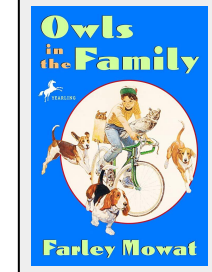
Activities adapted from Reading Rockets Start with a Book startwithabook.org



Grades PK-1:
Owl at Home

Grades 2-3:
Miss Suki is Kooky!





Grades 4-5:
Owls in the Family

Looking For More?

If you like the activities you see in this packet, visit our ACPS Parent & Family Literacy Links webpage for more book lists, parent tips, and ideas you can try at home!

SCAN ME

Activating Background Knowledge

Before diving into the activities in this packet, here are some questions you can ask your child to see what he/she knows about birds. Can you think of any other questions you could ask your child?

- What characteristics do birds have in common?
- How are birds different from each other?
- How are birds similar and different from people?
- How are birds useful to people?
- What do you wonder about birds — e.g. how they can fly?

You might consider having your child conduct **Bird Walks** throughout the summer. You don't need to go far. Some of the best birdwatching can be in your own backyard! Moving quietly, frequently holding still, and looking for the movements of birds and other animals will increase their chance of seeing birds during a Bird Walk.

Survey Says...

Complete the brief survey below let us know if you liked the activities in this packet and how we can better support you with these types of activities in the future. We look forward to your feedback!

SCAN ME

Topic 1 - Bird Beginnings

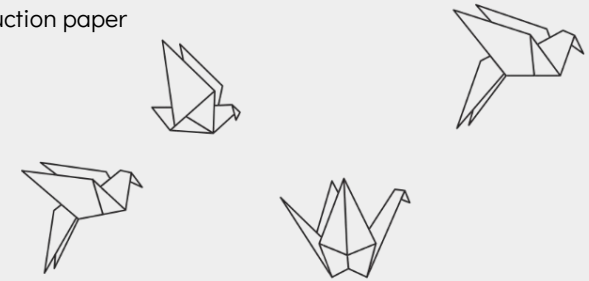
As the only living descendants of dinosaurs, birds have an extremely long and complex history. What birds look like now, where they live, how they act, and how they communicate, are all connected to how they developed in relation to each other. Birds have common ancestry to a group called the theropod dinosaurs that included bipedal carnivores such as *Tyrannosaurus rex* and *Velociraptor*. The oldest known bird *Archaeopteryx* had feathers, teeth, claws on the wings, and a bony tail as long as the rest of the body. *Archaeopteryx* provides fossil evidence that birds are close relatives to reptiles. But which reptiles? Dinosaurs! Watch: *It's a Bird! It's a Plane! It's a Dinosaur!* (SciShow Kids)
https://youtu.be/syAwnjoLNV8

Hands On Activity:

Archaeopteryx was probably capable of flight, but many theropod dinosaurs could not fly even though many had traits needed for getting airborne, such as feathers and light, hollow bones. And not all birds fly the same way. Some birds, like hummingbirds, hover and zip around. Other birds soar through the air. Ask kids to think about what accounts for these differences in flight and apply their ideas to creating a dino bird or modern bird paper airplane.

Supplies:

- Images of different birds and theropod dinosaurs
- Blank white paper and/or construction paper
- Scissors
- Markers or crayons
- Stapler, glue, tape
- Paper clips
- Tape measure
- Stopwatch or stopwatch app



Fun fact: Birds are *bipedal*, which means having two feet.

prefix	root	suffix
bi- two	ped feet	-al having

How to:

1. Wing and body shape affect how both a bird and a paper airplane will fly. Let kids look at images of a variety of birds and avian theropod dinosaurs and choose one that they will reimagine and make into a paper airplane.
2. Provide paper and some basics on folding paper airplanes. Encourage kids to experiment with a variety of folding techniques that will result in creating a plane with wings and a body shape that represents the dino bird or modern bird they have chosen to make. Visit https://www.audubon.org/news/these-paper-airplanes-fly-birds and https://www.foldnfly.com/ for some ideas. Allow for test flights of planes before kids draw, color, cut out, and add distinguishing characteristics, such as: wing feathers, tails, tail feathers, besk (bill), teeth, legs, feet, claws, and eyes.
3. Build the paper bird planes. Provide a stapler, glue, and/or tape for attaching bird or dino bird parts. Encourage kids to use markers or crayons to add any additional features to their creation. Counterweights (paper clips) may need to be added to some planes to help stabilize planes with generous additions of distinguishing characteristics. Let kids do test runs to get weight in the right places.
4. Once bird planes are ready, have kids observe them in flight: how far each flies, its flight pattern, how long it stays up, etc. Then set up a test to compare the flights of the modern bird planes with the dino birds to discover which will fly the furthest or which stays in the air the longest.

Results

Name of Bird or Dino Bird	Time	Distance

Before a bird plane is thrown, have kids look at both planes and offer their hypotheses on distance and hang time. Have each bird plane thrown from the same starting point and have someone time how long each bird plane stays in the air. Then have someone measure the distance it traveled. Kids can write observations in the results table like the one shown for their own bird planes. Encourage them to test out different designs. Look at which type of bird plane model went the furthest, which flew the longest, and ask kids why they think that's the case. Have them share their ideas about wings and body shape, size, weight, and feathers.

Writing:

Bird Diary: Have kids develop diary entries from a bird's point of view. Ask them to write and draw about their daily life as a bird. Offer as a starting point: You are a bird. How do you know that you are a bird? What kind of bird are you? What does it feel like to fly? What do you see around you? What do you like about being a bird? What do you not like?

Word Play:

- Brainstorm other words that rhyme with bird. (third, herd, nerd)
- Theropods were the bipedal dinosaurs that are the ancestors of birds. How many syllables are in the word theropod? (3) How many other words can you think of that have three syllables? (dinosaur, bipedal)
- Bird has three phonemes or sounds. What other words have three phonemes? (beak, bill, leg)
- Fly begins with the fl- blend. What other words begin with fl- blends? (flip, fling)
- Bird has an r-controlled vowel sound /er/. What other words contain the /er/ sound? (twirl, fern, burn)
- How many words can you think of that begin with the word bird? (birdcage, birdhouse, birdseed)
- Birds are bipedal. The root ped means feet. What words can you think of that share this same root? (pedestrian, pedicure)

Topic 2 - Bird Habitats, Food, & Foraging

A bird of prey, or raptor, has excellent eyesight, powerful feet with long sharp talons, sturdy, partially hollow bones, and a strong hooked beak. Most hunt live prey and all are carnivorous. Birds of prey include hawks, eagles, falcons, owls, and vultures – though vultures lack strong, grasping feet and talons and dine on carrion. Vultures also use their sense of smell to locate their food, but most other birds locate food by seeing or hearing it. A Great Horned Owl, which has no sense of smell, can prey on skunks because of this. Birds' preference for food is guided by being able to locate it and use their beaks to get it into their mouths. Watch: *Who Knew? Amazing Owl Facts!* (SciShow Kids) https://youtu.be/13yxEVwdUbw

Hands On Activity:

#1 Eagle-Eyed

Binocular vision is when both eyes can focus on one thing at the same time. Birds of prey, especially eagles, have amazing long-distance vision and can use both monocular and binocular vision. Eagles can see perfectly clearly about eight times as far as people can, allowing them to spot and focus on even small prey animals that are two to three miles away. Find out how "eagle-eyed" you are!

Supplies:

- A quarter coin
- Tape measure

How to:

1. Take kids outside to a large space, such as an empty parking lot, playground, or sidewalk where it is safe for everyone to stand.
2. Have the kids turn their backs to you and place a quarter on the ground – don't let them know where you put it.
3. Have kids walk about 25 feet or so away from the quarter and then have them turn around and ask if they see anything on the ground back where they were first standing.
4. Slowly, have kids walk toward the quarter and when they see the quarter, have them stand in that spot. Measure the distance and multiply it by 8. That's about how far away an eagle would be able to see the quarter!

#2 Night Hunters

Nobody says "eagle-eared," but this doesn't mean eagles have poor hearing. Birds of prey like eagles and hawks that are diurnal (active during the day) do use their hearing to locate prey or other birds, but it's not as essential as it is for owls, which locate their prey in the dark only by sound. Birds' ears are funnel-shaped openings located below and somewhat behind their eyes. They do not have outer ears and their ear openings are covered by soft feathers called auriculars, which help protect the ears and help keep the sound of rushing wind out.

Supplies:

- Empty narrow-necked bottle
- Fine-toothed comb

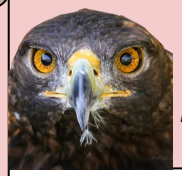
How to:

1. Get a narrow-mouthed bottle and blow over the opening. What happens?
2. Next, hold a fine-tooth comb over the mouth of the bottle and blow through the comb. What happens? The teeth of the comb act like the soft feathers covering the ear openings and cut down on the noise.

Some owls, especially those who hunt at night, have one ear opening higher than the other and rely on their hearing to locate prey. Depending upon where the sound is coming from, the sound will be louder in one ear than the other. This difference helps the owl pinpoint where the sound originates.

Writing:

Bird-Powered Hero: If you swapped your eyes for an eagle's, what would you do with your incredible vision? What if your superpower was super sonic hearing, like an owl? What would you do? Which bird power would you prefer? Why?



Fun Fact:
The phrase *eagle-eyed* is an idiom that means someone is observant and quick to notice things. Other bird idioms include *birdbrain*, *night owl*, and *for the birds*. What do you think these idioms mean?

Word Play:

- You found out that eagles have good eyesight. Brainstorm other words that rhyme with sight. (might, flight)
- How many syllables are in the word hunter? (2) How many other words can you think of that have two syllables? (locate, eagle)
- What other words can you think of that have the /n/ sound like you hear at the beginning of night? (net, nice)
- Sharp begins with the /sh/ sound. What other words can you think of that begin with the /sh/ sound? (shovel) How about end with /sh/? (fish)
- Prey starts with the pr- blend. What other words can you think of that have the pr- blend at the beginning? (preen, prop)
- The word eagle has the vowel ea that spells the long e sound. What other words have a long e sound spelled with ea? (beach)
- Powerful has the suffix -ful meaning "full of". What other words can you think of that have the suffix -ful at the end? (watchful, wonderful)

Topic 3 – Bird Brains

Many birds, including chickadees, crows and jays, will hide food to retrieve and eat at a later time. This behavior is called *caching* and helps birds survive when the weather or food sources are low. Some birds' brains – actually the hippocampus, the spatial memory part of the brain – grow larger in the fall to help them remember where they've stored food. Birds who cache can store hundreds of seeds a day! They place seeds in different locations and can remember where each cache is, even a month later. Smart birds! Kids can try their hand at caching and test their own spatial memory. Watch: *Ravens Are Super Smart (SciShow Kids)* https://youtu.be/tJcuKcfz8qY

Hands On Activity:

Ask kids: Do you have a hard time keeping track of your belongings? How do you know where to find where you've put something? Do you use landmarks to remember where you put it? Do you have a map inside your head of the location?

Supplies:

- Small items that are decomposable, e.g., coffee beans, dried beans, popcorn kernels, etc.

How to:

1. Head to an outdoor space where you can spend a few hours or easily come back that same day. Explain caching behavior in birds and then give each child five small items that are decomposable, e.g., coffee beans, peanuts, other foodstuffs.
2. Tell kids to "cache" or hide the items by covering them with leaves, grass, or other natural materials. (Make sure they don't dig any holes.) Ask them to make sure to remember where they hid their items because they will need to find them later.
3. After everything has been cached, you can either stay outdoors and do some bird watching or head back and plan to return to the same spot later in the day. You want some time to pass before asking kids to come back and find their caches. Before you have them start their search, discuss the Clark's Nutcracker (shown above):
   a. Remind kids that earlier in the day, they hid bits of food. In doing that they were acting like the birds who do the same thing in the wild – but birds do it on a grander scale. For example, Clark's Nutcrackers bury pine seeds in as many as 5,000 caches! They are able to retrieve many of them, but some seeds are found by others and some they don't find. The seeds they don't find may grow into pine trees and keep the forests green.
   b. Ask kids: Why do you think we hid those items earlier? What does this activity have to do with bird intelligence? Do you think having a good memory has something to do with how much intelligence you have? The fact that the bird can find most of the 5,000 caches it hides seems to show that the bird has a tremendous intelligence to remember where these seeds are. Talk about some reasons birds might have better spatial memory than people. Do you use your memory a lot? What do you use it for?
   c. The Clark's Nutcracker is clever in other ways too. It knows that other birds may be watching it as it hides seeds. If there's another bird watching, the Nutcracker will pretend to hide the seeds, but it then moves to another location to create the actual cache! That is clearly a sign of intelligence. Being aware of what others are thinking and acting on that awareness is a high level of intelligence. Ask kids: Have you ever done anything similar to this strategy of Clark's Nutcracker?
4. Now have kids search for their caches. Give everyone plenty of time to look and remind them to only retrieve what they hid. Once the search is over, check in to see if they found all of their hidden items. Ask: How did you remember where you left your cache? For items not recovered, discuss what might have happened to them.

Fun Fact:
Although bird brains are tiny, they're packed with neurons, especially in areas responsible for higher level thinking.

Writing:

Have kids write an acrostic poem about a bird of their choice. It can be about their favorite bird or any bird they've seen or been learning about. An acrostic poem is one that uses all the letters in a word or name as the first letter of each line of the poem.

Robin

-**R**ed breast
-**O**ften feeds on lawns
-**B**obs along
-**I**nsect eater
-**N**ests made of mud

Word Play:

- Cache begins with the /k/ sound. What other words begin with the /k/ sound? (cat, crow) Can you think of any words that end with the /k/ sound? (duck, tank)
- What words can you think of that have the same beginning sound as robin? (red, raven)
- How many phonemes or sounds are in the word memory? (5) What other words can you think of that have five sounds or phonemes? (plant, splotch, spring, blimp)
- Brain includes the br- blend. What other words can you think of that have the br- blend? (brag)
- The word look contains the /oo/ vowel sound. What other words have the same sound? (book, shook)
- The word decomposable includes the suffix -able, which means "able to." What other words can you think of that include the suffix -able? (useable, payable)

Topic 4 - The Social Life of Birds

It's possible that birds may sing just because they want to, but for the most part, they are using their songs to communicate with other birds. Birds have a variety of vocal sounds they use to communicate in different situations. Kids can explore how birds use calls and songs to communicate and learn how to listen for songs and use mnemonics to identify the birds they hear and see. Watch: *Why Do Birds Sing? (SciShow Kids)* https://youtu.be/ytPVMoHLumo

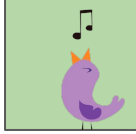
Hands On Activity:

Just like people, birds sing! They also use their voices to communicate in other ways. How do you use your voice? Why do we sing? Ask kids: Why do they think birds sing? In many bird species, both females and males sing incredibly complex songs, but in some species, females do not sing at all. Birds may sing to attract a mate. They may also sing to identify their territory, letting other birds of the same species know that this territory is taken. Birds also communicate when they make calls — shorter and simpler vocalizations — to let each other know their location or make alarm calls to warn of danger approaching, perhaps a hawk in the area. Each song is specific to a species, so you can identify a bird by what it is singing.

How to:

1. Play the videos below for each bird (or choose others if you prefer):
    a. American Robin - https://www.allaboutbirds.org/guide/American_Robin/sounds
    b. Barred Owl - https://www.allaboutbirds.org/guide/Barred_Owl/sounds
    c. Black-capped Chickadee - https://www.allaboutbirds.org/guide/Black-capped_Chickadee/sounds
    d. Mourning Dove - https://www.allaboutbirds.org/guide/Mourning_Dove/sounds
2. Have kids watch and look and listen for: the size, shape, and color of the bird; what the bird is doing in the video; the sounds the bird is making.
3. Play the sound for the video again (without showing kids the screen) or some of the audio files found on the same page, letting kids know which bird they are listening to. Ask kids to listen carefully and describe each of the birds' songs or calls.
4. Now see if kids can identify the bird just by hearing the song of that bird. Use a different audio file than before and have kids close their eyes and listen. After each file ends, ask kids to offer their identifications by raising their hand when you say the name of the bird they think they heard. Discuss how successful kids were at identifying birds with just their ears. Sometimes it is easier to remember bird songs by using mnemonics — a memory tool. Birders often come up with phrases or sounds in their own language to help remember bird songs. Mnemonic phrases follow the same rhythm birds use and need to be catchy to help people remember them.
5. Share these mnemonics for the birds you listened to earlier. Ask kids: Are these mnemonics good representations of the sounds the birds make? Would they help you remember the bird's song?
    a. American Robin: Cheery up, Cheerio! Cheery up, Cheerio!
    b. Barred Owl: Who cooks for you? Who cooks for yooou-allll?
    c. Black-capped Chickadee: Chick-a-dee-dee-dee. Chick-a-dee-dee-dee
    d. Mourning Dove: Hooo-ah hoo-hoo-hoo
6. After kids review the phrases, let them look up some of the birds online or use a bird identification app and listen to the songs of birds they are interested in. Ask them to write down the bird name and mnemonic. To conclude, you can play a variety of bird songs and let kids invent their own mnemonic comics, like those on the right.

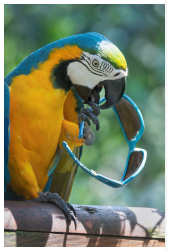
Fun Fact: Birds aren't born knowing their population's songs. Just like human babies, they have to listen to adults singing to pick up on the "language."



Bird Sound Mnemonics Comics

Writing:

Bird Talk: Share images of birds in unique positions or situations. Ask kids to think about what the birds in the pictures are thinking or what they might say if they could talk. Ask the kids to write in captions for what they imagine the birds are thinking or saying. Get started using the picture of this parrot.



Word Play:

- Birds like to sing. Brainstorm other words that rhyme with sing. (king, ring, thing)
- Owl has two phonemes or sounds. What other words can you think of with two phonemes? (me, day, moo, by, each)
- How many syllables are in the word mnemonic? (3) What other words can you think of that have three syllables? (canary, albatross)
- The word song has a short o vowel sound. What other words can you think of that have the short o sound? (hop, spot)
- Sound ends with the -nd blend. What other words can you think of that have the -nd blend at the end? (trend, grand)
- Audio has the root aud meaning "hear". How many other words can you think of that use the root aud? (audition, audience, audible)

Topic 5 - Birds & Humans

Litter is unsightly, but the harm it does goes far beyond just looking like a mess. More than one million seabirds die each year from being tangled up in plastic trash or from eating it. Ocean litter may come from anywhere because much of it is carried to the sea by rivers. Plastic waste also causes problems for birds on land. They may become entangled in it and can't fly, or they find small pieces of it and feed it to their young. Disposing of trash properly is a valuable way to help save the lives of birds and other wildlife. Watch: *Facts of Plastic Pollution* https://youtu.be/npHUp_oQ-08 and *How Plastic Hurts the World (SciShow Kids)* https://youtu.be/VUUUxOl715s

Hands On Activity:

Ask kids to name products that they use regularly. Ask: How many of these products come in plastic packaging? How do they dispose of these products? Where do these products go once they have disposed of them?Trash that has not been properly recycled or thrown away is a problem for everyone. Discuss what ideas kids have for making litter and trash less of a problem.

Supplies:

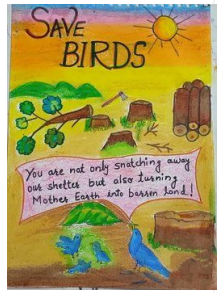
- Trash bags
- Rubber gloves

How to:

1. Head out to a park or hiking trail or just take a walk with a purpose – looking for litter. Bring a trash bag and provide rubber gloves for everyone. If your area has a recycling program, you may want to have a bag specifically to carry items kids collect that can be recycled. One person in your group (or more if it's a large group), can keep track of the number of pieces and type of trash that is picked up – plastic, paper, metal, and other kinds. Kids can rotate between being collectors and counters. When the walk is over, dispose of the trash and recyclables properly.
2. After the walk, have kids tally up the pieces of trash from their notes and determine what type of material was the most commonly found. Have them list the top 10 trash items and what materials those items are made from. Compare their list to the items collected during the Ocean Conservancy's 2019 International Coastal Cleanup.
3. Ask kids about the items they found: Do you use any of these products? Can you think of any substitutes that could be used? Have kids create a list of substitutes for the plastic items they found or that were found during the International Coastal Cleanup. They can share it with others to encourage a "Reduce, Reuse, Recycle" mindset in their community.

Writing:

Save the birds!: Have kids put together a colorful illustrated flier or a poster to share some ways their family and friends can help protect birds and their habitats. Share these questions with kids to provide topics for them to consider:



- What everyday objects are a hazard for birds?
- How can windows be made more bird-friendly?
- What pets are a danger to birds? How can pet owners help keep birds safe?
- What birds should not be pets?
- What pesticides are harmful to birds?
- What groups help to keep birds safe? How do you join these groups?
- What can you plant in your backyard that will help create bird habitats?
- How can you tell others about the problems birds face?

In making their flier or poster, kids should make their suggestions for saving birds simple and easy for others to do and help everyone understand how important birds are for the life of our planet.

Fun Fact: More than 90% of all seabirds are found to have plastic pieces in their stomachs. According to forecast models, 99% of seabirds will have plastic in them by 2050.

Word Play:

- Brainstorm other words that rhyme with harm. (farm, charm)
- Litter begins with the /l/ sound. Can you think of other words that have the /l/ sound at the beginning like litter? (list, lion)
- How many phonemes are in the word trash? (4) What other words can you think of that have four phonemes? (jump, trail, river)
- Try this word chain: Say trash. Say trash, but don't say /t/. (rash). Say rash. Change the /r/ to a /b/. (bash). Say bash. Change the /sh/ to a /ch/. (batch). Say batch. Change the /b/ to an /k/. (catch). Say catch. Change the /ch/ to /sh/. (cash). Now say cash, but don't say /k/. (ash). Say ash.
- The word recycled as the prefix re- which means "again." Can you think of other words that use the prefix re- meaning "again"? (reuse, rethink)