Lesson Plan: **Introduction to Birds**

What do we notice and wonder about birds?

Alignment with STEM Framework

Altruist ❤️ **Tinkerer** 🔧 **Investigator** 🔍 **Conservationist** 💧

Overview

In this lesson, the facilitator introduces the Bird Project and asks youth what kinds of questions they have about birds and what kinds of investigations they are interested in completing as a part of this project. The facilitator explains that there are many reasons to study birds including the following: 1. Birds are sentinels of many changing environmental conditions, 2. Birds provide great pest control. They consume 98% of certain insect pests, 3. Birds pollinate many flowers, and 4. They provide us with sheer joy! 45 million people enjoy bird-watching as a hobby.

Practice Goals

- ☐ Identifying Birds
- ☐ Creating methods for data collection
- ☐ Obtaining, evaluating, and communicating information about backyard birds

Content Goals

- ☐ What birds live in my backyard?
- ☐ What birds live in my backyard year-round?
- ☐ What birds nest in my yard?
- ☐ What birds visit my yard to feed or rest when they are migrating?
- ☐ What kinds of habitat can I provide in my backyard to attract birds to feed, rest and/or nest?

Purpose

The purpose of this project is to explore backyard birds with youth. This lesson is intended to provide opportunities to engage in scientific practices such as questioning, observing, predicting, and organizing for data collection.

Teacher Background Information

Bird watching is one of the most popular outdoor activities. It is easy to get interested in bird watching as birds are still living in most rural, suburban and urban areas of the country. There are some excellent free apps that make learning about and identifying common birds easy. Teachers can download the Merlin app, the e-Bird app, the Audubon app and the iNaturalist app to report bird sightings and to learn more about bird species that they see. Birds are attracted to bird feeders of all types and watching birds at feeders is easier than searching for birds in the wild. Setting up nesting boxes, nest-cams and trail cameras on feeders lets you learn more about the habits of specific species of birds. Most birds will be in the NC Piedmont during the spring, summer and fall and with leaf-out it is more difficult to see birds. However, you can hear birds calling, especially in the spring and learn to identify them by their calls. Once again, some free apps like Merlin include calls and there are two free apps that identify birds by call if you can record their calls: bird sleuth and birdnet.

Identifying common birds is not hard but it is best to start with birds in your backyard/school yard. Try to learn just a few birds at a time. Binoculars are a must – generally the more expensive, the better (with binoculars you generally do get what you pay for). Be sure you practice with binoculars before you teach your students how to use them.

Affinity Goals

♥ I can act like an **Altruist** by feeding the birds.

🔧 I can act like a **TInkerer** by drawing a plan for a birdhouse.

🔍 I can act like an **Investigator** by looking for birds in my yard and neighborhood and my school grounds and noticing their colors, size, beak size and shape, flight patterns, etc.

💧 I can act like a **Conservationist** by keeping data on the birds I see and contributing to citizen science studies.

Materials

☐ Binoculars
☐ Apps

Time Needed

Individual Choice

Instructional Sequence

Engage:

☐ Facilitate discussion using KLEWS chart. Facilitator will document students thinking about what youth already (K)now and what they (W)onder.

Facilitator:

☐ Use KLEWS chart over the unit to stimulate discussion, capture youths' reasoning, and document questions as they arise.
- What do we think we (K)now about birds? (Revisit along the way to see if student thinking has changed.)
- What did we (L)earn (to be filled out along the way as a living doc)?
- What (E)vidence do we have that supports the learning (claims) we have made?
- What do we (W)onder (questions - along the way as a living doc).
- What (S)cience have we learned or observed as we have participated in our exploration? (This may include disciplinary vocabulary or ideas).

Engage:

☐ Consider launching with a bird phenomena. Like a video clip of a migrating flock landing together. Or an assortment of bird feet to think about how the structure and function (perching, webbed, walking, gripping)

Youth will:

☐ Engage the tinkerer by having drawing a plan of a birdhouse they imagine. Pose them with a problem, like - how can we design a feeder that keeps squirrels out?