CHECK OUT THAT BIRD!

1. Pick a bird to observe. Then, go through these steps to figure out how your bird has adapted to live in this habitat.
2. Draw your bird in its habitat here:

3. What body shape does your bird have?

4. What kind of beak does it have?

5. What do its’ feet and legs look like?

6. Looking at all these different body parts, what do you think this bird eats?

7. Use the bird guide to identify your bird.
Did you know?

- The San Francisco Bay Area is an important stopover point for many bird species as they migrate all the way from the Arctic Circle to South America and back again.
- Over 1.5 million birds stop in the San Francisco Bay Area during the winter time.
- The Bay Area serves as important habitat for birds to rest, eat, and breed. It is crucial that we make sure the habitat is kept intact for these birds!
- Plastic pollution poses a big threat to birds and their habitat.
- Each year enough plastic is thrown away to circle the earth 4 times!
- Right now 90% of seabirds have plastic inside of them.

How can you help?

- Pack a lunch in reusable containers.
- Try to use less disposable plastic like straws, plastic bags and to-go containers.
- Recycle the plastic you do use.
- Make sure to stay on trails and designated areas when you’re hiking, camping or visiting parks.
- Tell others how important it is to be a steward of San Francisco Bay!

Pacific Flyway
U.S. Fish & Wildlife Service
Check Out That Bird Background Information:

- Students observe birds and learn how morphology allows species to harness the resources available in the environment.

- Bill length and shape varies from species to species allowing birds to pursue different prey in the same area at the same time without competing with each other. Because of varying bill lengths, each bird species food source is in a different place or they eat entirely different things.

- The Pacific Flyway: Each year at least 1 billion birds migrate along the Pacific Flyway, which stretches from the North Slope of Alaska to Central and South America. Some species are in serious trouble, and even many common birds, such as the Western Sandpiper, have become far less common. Habitat loss, water shortages due to diversion for agriculture and development, diminishing food sources, and climate change all threaten the birds of the Pacific Flyway.

What type of birds might you see?

(The information in columns one and two is from http://www.waterbirdconservation.org/waterbirds/. Unless otherwise noted, information in column 3 is from The Sibley Guide to Bird Life and Behavior.)


Expanding the lesson:

Biodiversity is defined as the total amount of different species within a given area.

With your students, ask whether or not they think the area you’ll be birding in is biodiverse (life+difference). Now students can explore the area and count how many different species of birds they find. Even if they cannot identify the bird, they can give it their own name to mark it separately from others. Once the birding activity is done, ask the question again.

Debrief: Is biodiversity important? Why or why not? How can biodiversity be destroyed? How can it be protected or restored? You can have students read the excerpt from the encyclopedia and answer the questions together.

The Great Potato Famine: https://www.britannica.com/event/Great-Famine-Irish-history

- Biodiversity protects ecosystems from disruptions. In the case of the Great Famine, Irish farmers were only growing two specific species of potatoes – because that’s what people liked. However, when a plant disease accidentally came from North America neither of those potatoes was good at combating the disease and the result was a huge loss of crops and eventually loss of life. What may have happened if the Irish potato farmers grew 10 different species of potato?
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<th>Picture</th>
<th>Group and Behavior</th>
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<td></td>
<td><strong>Song birds:</strong> Sparrows, finches, juncos, warblers. Perching birds with well-developed vocal organs.</td>
<td><strong>White Crowned/Gold crowned Sparrow:</strong> Brown shoulders and wings, dark black striped heads with white or yellow stripes.</td>
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<td><strong>Behavior:</strong> Mainly ground dwelling, often secretive, brownish and streaked, with conical bills. Feed on seeds in winter and insects in summer. Some jump and push leaves simultaneously (hop-scratch) to find food. Some form large mixed groups, others have specific habitats and don’t mix.</td>
<td><strong>House Finch:</strong> Light tan to dark brown/black shoulders and wings, males have bright red chest/neck/heads. <strong>American Gold Finch/Lesser Gold Finch:</strong> Females gray/yellow with black/yellow wings. Males bright yellow chest/neck. Lesser Finch males back of the neck is black. American golds yellow all the way around.</td>
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<td><strong>Corvids:</strong> Crows, Jays, Ravens.</td>
<td><strong>American Crow:</strong> Direct flight with bouncy wing beat. Distinctive rattle call kind of a clicking noise. <strong>Stellar and Scrub Jays:</strong> Bright blue plumage and long tails. Stellar jays have all black heads and a Mohawk. Scrub jays have blue helmets with white lines above the eyes and a white neck. <strong>Common Raven:</strong> Larger than crows with longer and narrower wings. Long wedge-shaped tail and long bill usually making deep croaking calls. Soars/glides longer than crows.</td>
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<td><strong>Behavior:</strong> All species are gregarious, usually seen in small groups. Omnivorous but mainly eat seeds and nuts. Flight is strong and bouncy. Noisy and bold and are known to mob predators. Extremely smart, known to use tools and solves multistep problems. Have great facial recognition and are vocal learning birds.</td>
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<td><strong>Humming birds:</strong> Anna’s, Costa’s,</td>
<td><strong>Anna’s Hummingbird:</strong> Relatively short bill for a humming bird. Males red throat and crown females red patch at the throat. <strong>Costa’s Hummingbird:</strong> One of the smallest birds: tiny and short tailed. Females have pale underparts, adult males have bright purple crowns an neck</td>
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<td><strong>Behavior:</strong> All species congregate at feeders or patches of flowers. All feed on nectar from flowers, but also eat tiny insects. Small size and long bills. Hovering flight.</td>
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<td><strong>Doves and Pigeons:</strong> Band Tailed Pigeon, Rock Pigeon, Mourning Dove</td>
<td><strong>Band Tailed/Rock Pigeon:</strong> Rock pigeons have extremely variable plumage. Can be spotted, brown, dark and iridescent, light and iridescent, and all white. Band tailed pigeons are larger and longer with a longer tail and rounded wings. Pale gray-lavender all over. Yellow bill and legs. <strong>Mourning Dove:</strong> Most slender dove with long pointed tail and relatively narrow pointed wings. Subtly colored in brown/gray. Warm brown and black spots on wings.</td>
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**Raptors:** Hawks, Eagles, Kites, Falcons

**Behavior:** As predators, raptors are always relatively scarce, and are often seen at a distance in flight. Identification often depends on subtle differences in wing shape and body proportions. Soaring and circling on updrafts is common flying pattern.

**Red-tailed Hawk:** This is the most common in most areas. Stocky and broad, rounded wings and short tail. Adults distinctive reddish tail. Light morphs and dark morphs – same reddish tail. Vocalization is used in every western movie; a distant sounding, rasping, scraping scream falling in pitch and intensity *CHEEEEEeeewv*

**Sharp-shinned/Cooper's Hawk:** These two look very similar. Best identified by the difference in shape and wing beats. Sharp-shinned Hawks have quick snappy wing beats and Coopers have stiff wing beats. Both have reddish brown chests with dark gray/black backs. Tail is long with horizontal stripes. Gray/black crown.