

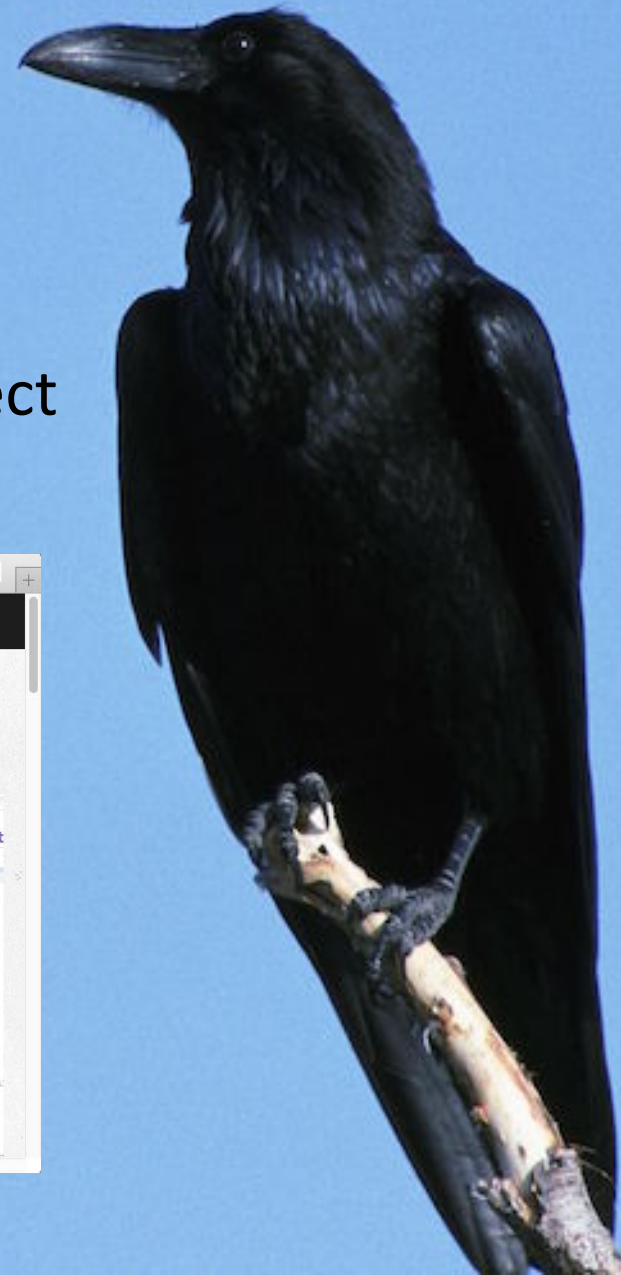
**Redesigning *Elementary Science Methods*
(EDCI 372) by Infusing Citizen Science
as a Pedagogical Strategy:
An Intervention and Study**

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Intervention

Model the use of **citizen science in two class sessions** by engaging elementary teacher candidates with Cornell Lab of Ornithology's *Celebrate Urban Birds* project



The screenshot shows a web browser window with the URL celebrateurbanbirds.org. The page header includes the Cornell Lab of Ornithology logo, a "Citizen Scientist Network" dropdown menu, the user ID "EDCI372", and a "sign out" button. The main heading is "Celebrate Urban Birds" with a language dropdown set to "ENGLISH". Below the heading is a navigation menu with links for HOME, ABOUT, GET STARTED, LEARN, COMMUNITY, EXPLORE, and YOUR DATA. The main content area is titled "EDCI372 – My Data" and includes a "My account" link and a "Sign out" button. Under the heading "How To Participate", there are three numbered steps: 1. Pick a place to **watch birds for 10 minutes**. Read about the species we are looking for. 2. **Add a new birdwatching area** to the map, if you haven't already. Please be as accurate as possible! 3. **Report your observations** (date, time, species seen) for the location. At the bottom, there are three buttons: "Submit Observations » and celebrate!" (highlighted in yellow), "Existing Birdwatching Areas »", and "Add a New Birdwatching Area »".

Sample activity

Tools:

iPad Mini with
Merlin Bird ID app



*Celebrate Urban
Birds* data collection
protocol

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Page 2 DID YOU SEE ANY OF THESE BIRDS DURING YOUR 10-MINUTE WATCH?
Please fill out the form EVEN IF YOU SAW NO BIRDS!

If you can't CONFIDENTLY identify a species, please fill in the UNSURE box

	DAY 1			DAY 2: (optional)			DAY 3: (optional)		
	Month	Day	Year	Month	Day	Year	Month	Day	Year
House Finch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
House Sparrow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barn Swallow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cedar Waxwing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brown-headed Cowbird	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
European Starling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ortola <input type="radio"/> Baltimore or <input type="radio"/> Bluebelly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
American Robin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Killdeer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mourning Dove	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rock Pigeon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peregrine Falcon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
American Crow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mallard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Black-crowned Night-Heron	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How many people participated in your 10-minute count?

If you saw any other birds, which one did you think was most exciting?



Fall 2014 Pilot



Studying the Redesign

Our Fall 2015 IRB-approved pedagogical study will investigate future elementary teachers' understanding and views of citizen science as a means of enacting the Next Generation Science Standards

- *Focal NGSS Disciplinary Core Idea: Climate change*
- *Focal NGSS Practice: Computational thinking*

Data sources

- Observation and field notes
- Student-generated drawings
- Blog post assignment
- Post-course focus group
- Artifacts (student-created lesson plans)



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