

# Local Environmental Observer (LEO) Network

## Age/Grade Range

- Grade 9-12
- Modifications available for grades 7 & 8

## Group Size

- Up to 15-20 students

## Time

- Prep time: 30 minutes
- Set-up: 5 - 10 minutes
- Activity Part 1: 60 minutes
- Activity Part 2: 90 minutes

## Materials

- Computers with internet access
- Projector (optional)
- Journals or field sheets and pencils
- Clipboards
- Camera
- Handouts
- Field tools (optional)

## Set-Up

1. Explore the LEO website. <https://www.leonetwork.org/en/docs/about/about>
2. Register as an observer and become familiar with the site.
3. Select a few observations from the site to show and discuss students. You can select the most viewed and trending observations on the upper-left corner of the screen.



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## Topics

- Citizen Science
- Experiential Science

## Objective

- Students should develop a deeper understanding of our local environment
- Make observations, formulate questions, and collect data.
- Encourage inquiry-based learning.
- Introduce students to a real world application of their knowledge





## Delivery Tips

- Connect with the LEO Network Coordinator in advance to let the team know that the class will be signing up to interact with the Network. They can provide technical advice if needed, and connect students with topic experts.
- Tell students to list the school name in their profiles when signing up for the Network. This way, the moderator can easily identify them and keep their profiles and activity private.
- Field trip: if possible, select a nearby nature area or water body that you can visit regularly. This part runs best with two or more facilitators knowledgeable of the area.
- Plan to repeat this activity through the course of the school year, going back to the same area to explore and recognize the seasonal changes.

## Activity Directions

### Part I

1. As a class, watch the video “*The eyes, ears, and voice of our changing environment*” found on the LEO website.
2. Introduce the concepts of environmental change, environmental events, and unusual sightings and discuss examples of each. Narrow the discussion to events posted on the Leo Network, looking at some observations on the website.
3. Split the class into groups of 2 - 4, give each group a copy of “Exploring the LEO Network” and access to a computer.
4. Allow 20 minutes for the class to complete the questionnaire and discuss the answers as a group.

### Part II

1. Let students know that they will go on a ‘field-trip’ around the school to make detailed observations about their immediate environment.
2. Ask students to take photos and notes of their observations. Encourage them to ask *what, when, where, why and how* – type questions to set a purpose for their observations. Brainstorm some questions as a class. This activity is about cultivating scientific inquiry skills. As such, we want to encourage questions that help students consider evidence.
  - a. How would you describe what you see?
  - b. What details can you add to your observation by using a variety of senses? If available, give students tools to extend their senses, such as hand lenses, binoculars, compasses, etc.
  - c. What more do you notice when you take a close-up view of a smaller area?
  - d. What questions can you answer based on your observation?
3. Back in the classroom, divide students into the same groups of 2 - 4 and ask them to share their observations. On the board, write down questions that they can ask each other:
  - a. What did we observe?
  - b. What did we already know from experience?
  - c. What information did we find through observation?
  - d. What questions arise from your observations?
  - e. Is any of our observations an event that we would post to the LEO Network? Why?





4. Wrap up the activity discussing how we can all contribute to studying, monitoring and understanding change in the northern environment, through careful observation, data collection and sharing. Introduce the concept of Citizen Science.

## Modifications

### Part II:

- Optional: focus on a specific topic such as plants, bird migration or ice to monitor spring and fall events (e.g., leaf-out, ice-out).
- Have students make a table with two columns, one with the heading “What I observe?” and the other one with the heading “What I wonder?”. During the field trip, ask students to find a quiet place within a defined area, and give them about 10-15 minutes to sit, observe and complete their charts.

## Pairs Well With

- FrogWatch
- PlantWatch
- Forest Bird Walk

## Print Outs

- Local Environmental Observer (LEO) Network Handout (Next Page)





# Local Environmental Observer (LEO) Network Handout

## Exploring the LEO Network Website

1. Sign up as an observer. Remember to add the name of the school in your profile.
2. Become familiar with the website. Explore trending and most viewed observations by clicking on observation in the upper-left corner of the page.
3. Select a trending topic such as Coastal Erosion or Ice Watch, and look at what people have observed and how the Network has responded.
  - a. What questions would you ask the observer or experts?
4. Go to the upper-left corner of the page and click on communities. Look at the map to see the areas of the highest concentration of observations.
  - a. Are there more observers in some areas than others?
  - b. What have people observed in your region?

