Raptor Resource Project Lesson Plans
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Phenology: Creating a Naturalist's Notebook

Grade/Level	4th to 6th grade
Time Allotment	This is a spring seasonal project that will take 2 - 3 months overall and 10 – 20 minutes daily, in and out of class time.
Content Area(s)	Science, Art, Language Arts

Objectives

Students will record and measure data through time
Students will learn about the life cycles of Eagles
Students will observe phenomena in the natural world
Students will practice science skills

Curricular Connections

- Science Disciplinary Core Ideas involving natural resources, weather and climate, biodiversity and humans, ecosystems dynamics, functioning, and resilience, organization of matter and energy flow in organisms, and interdependent relationship in ecosystems.
- Language Arts & Literacy including writing standards.
- Visual Arts standards involving Connections and Visual art media, techniques, and processes. (if you include observational drawing, etc)

Instructional Materials

Beaufort Scale for Land Chart (many styles available on internet). You can make copies for them to paste in their journals

Resources

https://www.raptorresource.org/birdcams/decorah-eagles

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Resources (cont.)

- *Into the Field, a Guide to Locally Focused Teaching* by Clare Walker Leslie, John Tallmadge, and Tom Wessels
- *Keeping a Nature Journal, Discover a Whole New Way of Seeing the World Around You* by Clare Walker Leslie and Charles E. Roth

Background Knowledge

Phenology is the study of changes through a season in regards to climate, plant and/or animal life. Naturalists keep detailed journals that reflect their observations on a daily basis and include information on time of day, location and weather in order to determine cyclical patterns throughout a year or longer. Some of the most famous naturalist journals have been used to help current day scientists understand how climate is changing and the effect on the flora and fauna in an area.

A basic journal includes:

- Date
- Time
- Weather (Temp, Wind (force and direction), Precipitation)
- Observations

Other additions can include sunrise/sunset, nature drawings, rubbings..etc. Journals CAN'T be ruined. Mistakes are just demonstrations of what you are learning. Nature Journals collect our natural history. It's like creating a calendar for the year as you go.

Systematic Record Keeping is best when it is an ongoing process. Build a habit, teach students to set up a routine to record in their journal. Step outside for 5 minutes daily to get their information, before school after school, during recess….

Procedure/Method/Activity

- Introduce the concept of a Naturalist's Journal to students. Discuss various samples of journals.
- Go outside and talk about how to measure the temperature, wind speed (and direction) for the day. Discuss why is this important to record weather information in our journals
- Teach students how to use all of their senses in making observations. Practice using their senses. What do they hear, see, smell, feel, can they taste?
- Have each student keep a journal from January to May.

Each daily entry should include:

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- Date
- Weather
- Time of observation
- Five observations that they made about the natural world each day.

Two or three times a week, students should write a 10-minute observation of activities on the Decorah Eagle Nest. What is happening in the nest in conjunction with the rest of the natural world? You can watch the nest in class and/or assign nest watching outside of class.

Assessment	Weekly sharing of journals in class. What has been similar and different in student observations?

Extension	Throughout the spring you can use this journal for a multitude of assignments. You can teach students observational drawing and have them make sketches in their notebooks. You can teach them how to use parts of their body to make estimated measurements (learn the length of their arms, hands and fingers). You can learn bird calls.