



# Open Access Curriculum

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**TITLE: Equinox Herbarium Collection**

**Ages:**

8 years to adult (originally designed for middle school students at NATURELab in Troy, NY)

**Total time:** 55 minutes

**Learning Objectives:**

Explore how new plants emerge during the arrival or spring, and learn how to preserve plant specimens for science and art! **Note:** This could be adapted to fall equinox or to either solstice, with different plants available!

**Resource list:**

*Wild Urban Plants of the Northeast: A Field Guide*, Peter Del Tredici  
iNaturalist Community Science ID tool ([NATURElab](#) lists common plants of the Northeastern US)

**Materials:**

Pressed and fresh spontaneous urban plants (gathered locally and ID'd ahead of time)  
Colored or white cardstock  
decorative washi tape  
Pre-printed herbarium specimen labels (template [here](#))  
Pencils, colored pencils optional  
Professional plant press (optional)  
Traditional style herbarium specimens (optional)  
Examples from previous workshops (optional)  
[Microfleur](#) plant press (optional, workshop can be adapted to use just pre-pressed plants)

**Activities:** conversation, vocabulary, fieldwork outside, making herbarium specimens, sharing

**Agenda:**

- **Welcome (Intros, Vocabulary and Plant Stretch):** 10 minutes

- Educator introduce themselves and NESL, have students do the same (names & grades)
- The **Equinox** is coming on (date). Who knows what that is? Conversation/discussion to pull out what knowledge students have about the **spring equinox**, and its importance for the changing of the seasons.
- Plant stretch = how do plants **sense** the arrival of spring? Stand up and make sure you have a little space around you. Feel the directionality of the light with your eyes closed, rotate your arms and hands and imagine the sunlight feeding you. Before and after ask questions to share how plants are able to measure the number of cold days and the length of daylight to break **dormancy**.
- **Fieldwork:** 10 minutes
  - Step right outside the classroom to look for signs of green on the ground nearby. Educator should be prepared to show/share at least one plant's name and some characteristics about it. Good ones for early season in the Northeastern US include: [evening primrose](#), [common mullein](#), [garlic mustard](#), [common violet](#), [ground ivy](#).
    - Ground ivy is very aromatic, and has medicinal properties. Pick some and have the students smell it's chemically/medicinal scent
    - Garlic mustard and violet look similar when they are young and just making little green leaves, but smell and feel very different. Have the students pass leaves of each around and crinkle and smell them. Smell the garlic and the fresh greenness!
    - Common mullein is pale green and very fuzzy, and has often overwintered. It grows in a round, flat **rosette** and has survived the winter under the snow. It's really tough. Same with evening primrose, which can be stepped on and keep growing. Both are **biennials**, meaning they spend one year as a flat rosette, then in year two send up a big tall stalk with flowers. Tell the students to come back in July or August to see how big the plant has gotten.
- **Conversation/Q&A:** What is an herbarium collection and why keep one? (5 min)
  - It's a mix between art and science, they need to be made nicely (good craft) can look really pretty (aesthetically pleasing) but also need to be done it a way that makes it useful for future scientists and learners (accurate, as many parts of the plant as possible, good for long term storage, ie **archival**)
  - People of the future will have proof of exactly what plant we saw on what day, and what stage of growth it was at. How can this be helpful?
  - Also, now old herbarium specimens from hundreds of years ago can be genetically tested.

- **Demo/Tools of the Trade:** (10 min)
  - Three methods to make specimens:
    - traditional/archival way, with a professional plant press, on acid free paper 11 x 17", with herbarium glue, coins to hold it in place, label with specific information about who, where, when, etc
    - Between heavy books with newspaper if you're doing it at home (2-3 weeks depending on plants/weather)
    - With a microfluer plant press in the microwave, and colored paper and bright tape, for a fun collection for NATURE Lab's Herbarium, celebrating the spring equinox!
      - Show how to use the microfluer on a plant one student picks, then have another pick a plant and try it themselves, have everyone's input on how long to microwave/if it's done
- **Pick a plant or two, make an herbarium specimen:** (15 min)
  - Introduce plants collected ahead of time, can have some already dried available, and some collected fresh that day, laid out on a big sheet of paper with their names written next to them
  - Students take turns using the plant press and working with already dried plants. Instructor rotates to talk with them about the plants they've chosen, and provide assistance in drying/mounting/making labels
- **Share and goodbye!** (5 min)
  - As students complete specimens have them share to the group
    - One thing they observe about their plant
    - One thing they learned about it from the instructor
    - Close with a group photo with everyone holding their specimens



# EQUINOX HERBARIUM COLLECTION!

- 1) WELCOME! (INTROS & PLANT STRETCH)
- 2) WHAT IS AN HERBARIUM COLLECTION?  
WHY KEEP ONE??
- 3) TOOLS OF THE TRADE → 3 METHODS!
- 4) CHOOSE A PLANT (OR TWO!)
- 5) MAKE YOUR OWN HERBARIUM SHEET! (BY 4:45)
- 6) SHARE + GOODBYE ✨ TIL NEXT TIME!

## HELPFUL VOCABULARY



HERBARIUM

TEMPERATE REGION (VS. POLAR OR TROPICAL)

SPRING EQUINOX

DORMANCY

ANNUAL

BIENNIAL

PERENNIAL

WILD VS. CULTIVATED

MICROCLIMATE

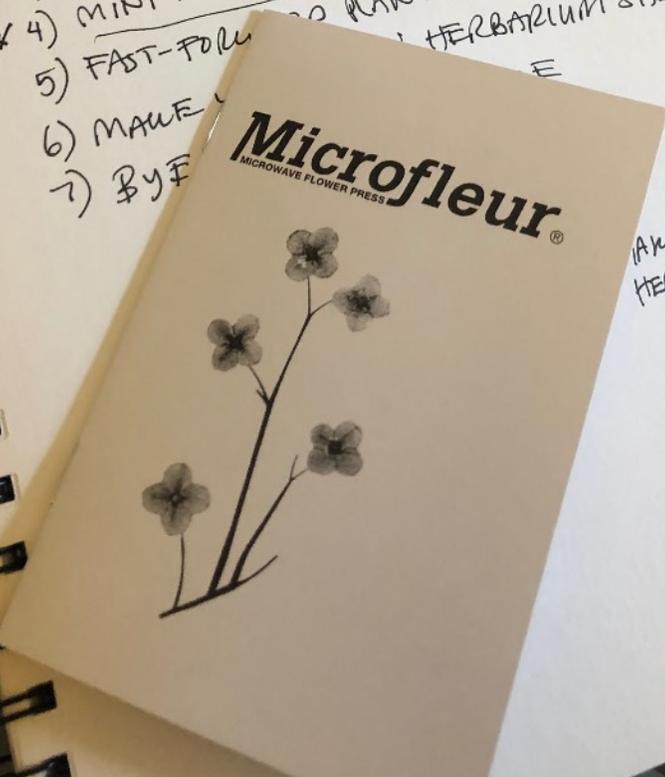


EARLY SPRING  
WHO

MINI LEADLINES  
...SITESIZING?!

AGENDA

- 1) WELCOME/INTROS (PLANT STRETCH 4:10-15)
- 2) WHAT IS AN HERBARIUM COLLECTION? WHY 4:15-4:20
- 3) TOOLS OF THE TRADE DEMO 4:35-40 (WILD) 4:20-4:35
- 4) MINI FIELDWORK <sup>MAYBE</sup> SESSION - HUNT FOR GREEN! 4:40-50
- 5) FAST-FORWARD PLANT PRESERVATION 4:50-5:00
- 6) MAKE AN HERBARIUM SHEET
- 7) BYE



MAKE AN  
HERBARIUM SHEET





**NEXT EPOCH SEED LIBRARY**

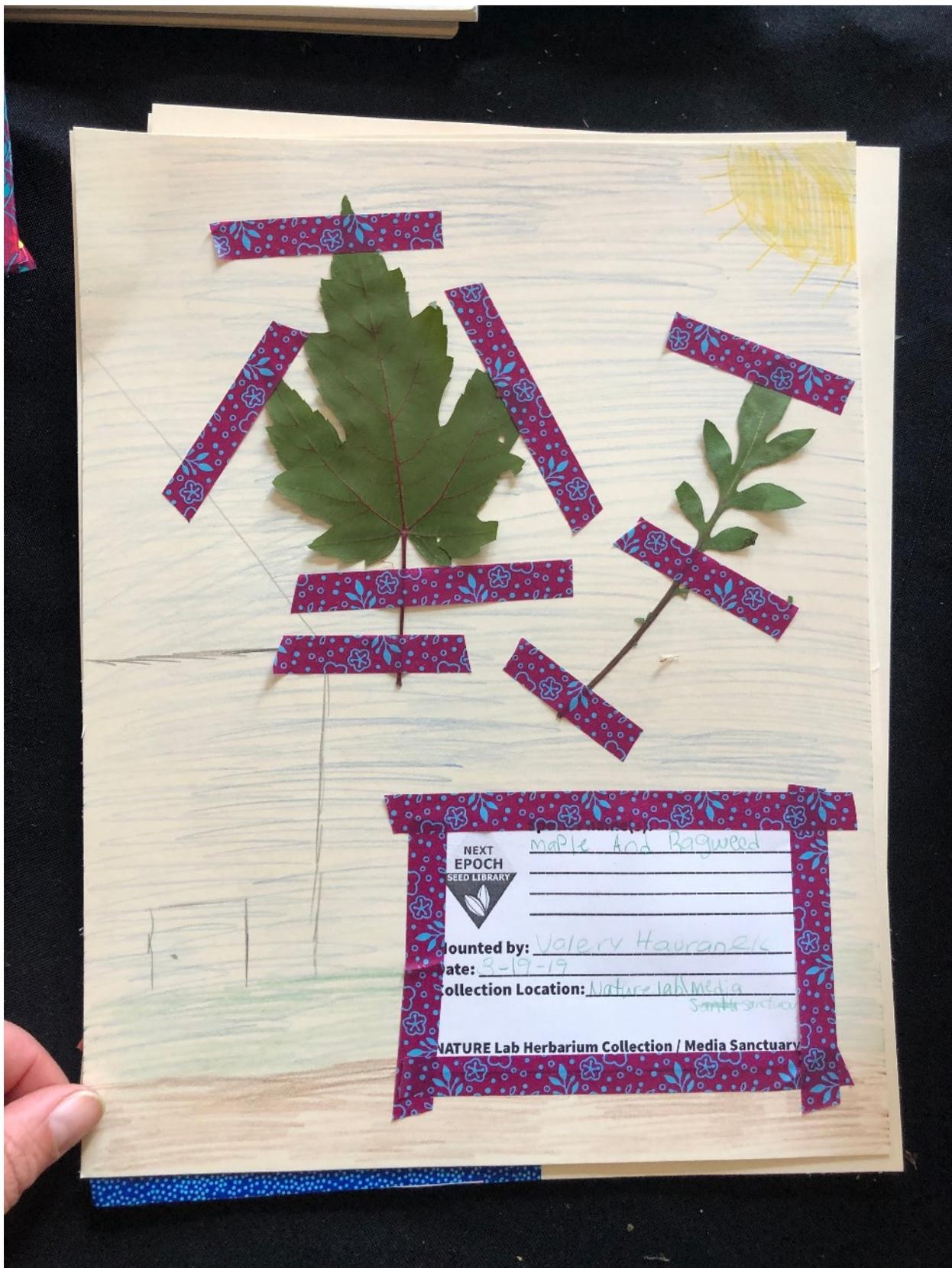
Species name(s):  
Nutt Sage  
Cissteige

Mounted by: mimiana hester

Date: \_\_\_\_\_

Collection Location: \_\_\_\_\_

NATURE Lab Herbarium Collection / Media Sanctuar



**NEXT EPOCH SEED LIBRARY**

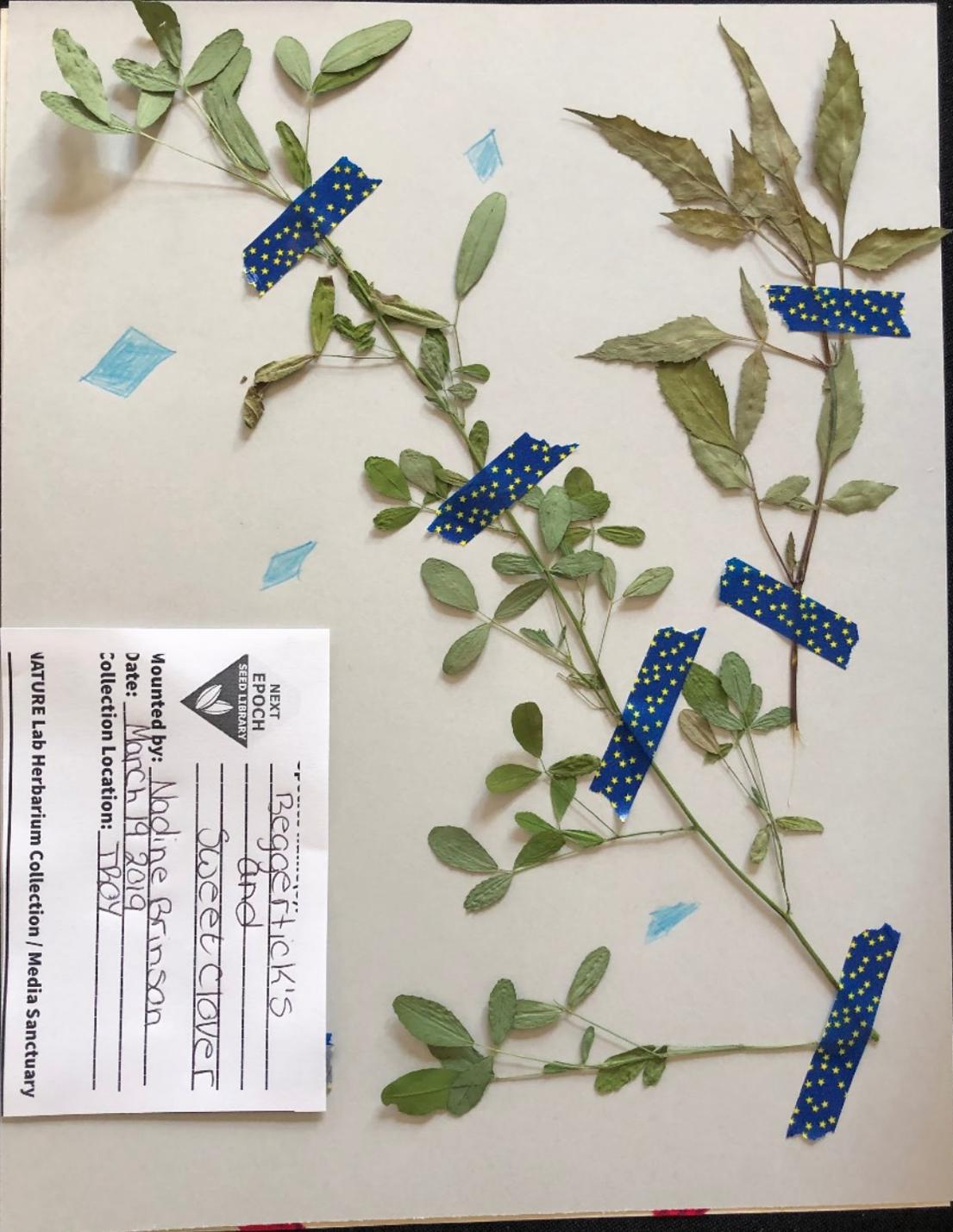
maple And Ragweed

Accounted by: Valery Hauranek

Date: 9-19-19

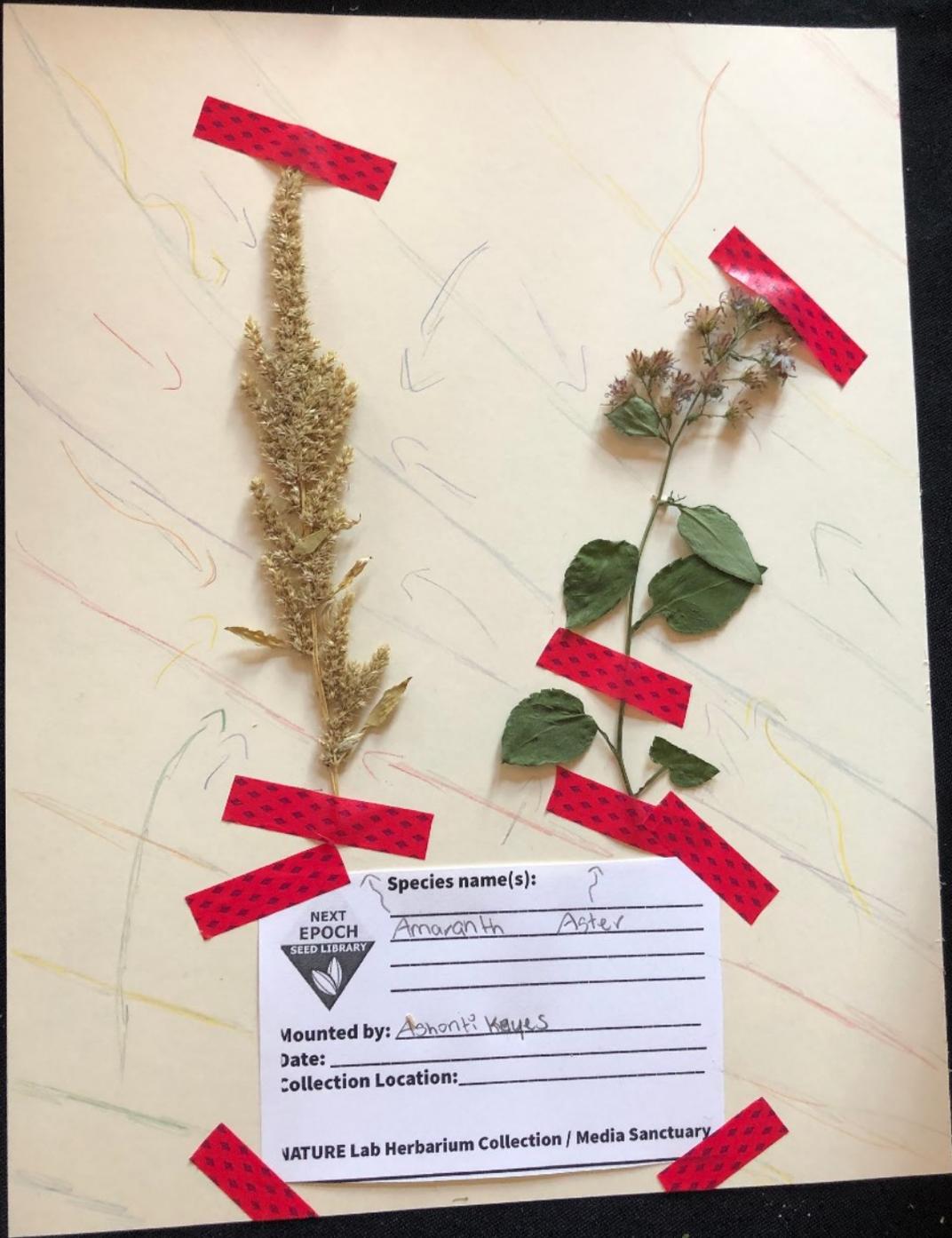
Collection Location: Nature Lab Media  
Samborombon

NATURE Lab Herbarium Collection / Media Sanctuary



Regerflick's  
and  
Sweet Clover  
Mounted by: Nadine Brinson  
Date: March 19 2019  
Collection Location: TROY

NATURE Lab Herbarium Collection / Media Sanctuary



**NEXT EPOCH SEED LIBRARY**

**Species name(s):** Amaranth Aster

**Mounted by:** Ashanti Keyes

**Date:** \_\_\_\_\_

**Collection Location:** \_\_\_\_\_

**VATURE Lab Herbarium Collection / Media Sanctuary**