# Archaeology at Marlette Jr/Sr High School

An Introduction to Archaeology Course for Pre-College Learners

# Goals/Purpose:

- Expose Pre-College students to the field and study of Archaeology:
- Provide an Applied Science elective course:
  - Require students to apply learning, knowledge and skills from previous core classes:
    - Next Generation Science Standards of Cross Cutting:
      - Patterns, Cause and Effect, Scale Proportion and Quantity, System Models, Energy and Matter, Structure and Function, and Stability and Change
- Design a quality lab-based science class for upper classman
  - 1 Semester in length
  - Offered in the spring of the year

# Partnerships: Needed to Provide a Real-World Archaeology Experience

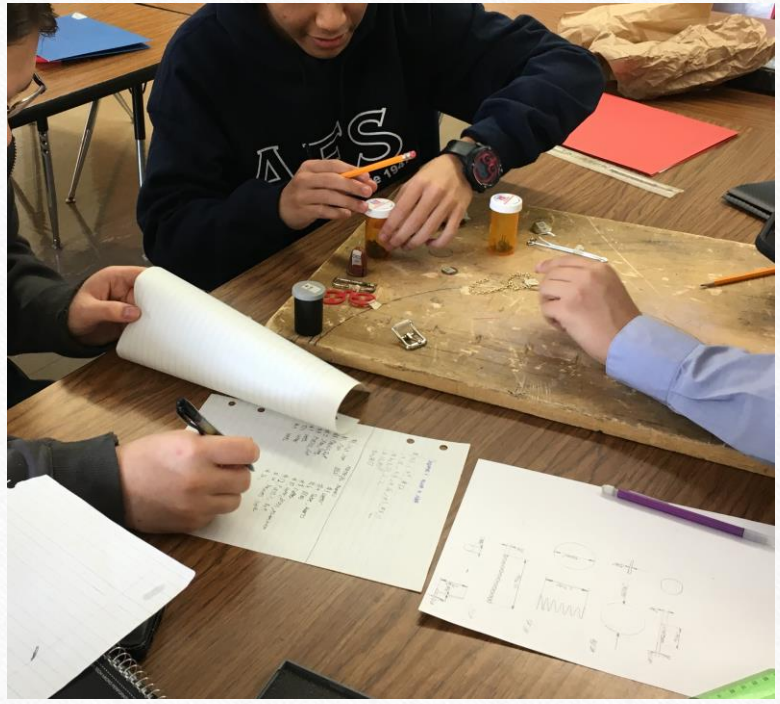
- Michigan Archaeologist:  Dr. John Halsey
- Michigan Archaeologist: Dr. Dean Anderson
- Michigan Archaeologist:  Stacy Tchorzynski
- Smithsonian: Dr. Dennis Stanford
- University of Michigan:  Dr. Dan Fischer
- University of Tennessee: Dr.  Jefferson Chapman

# Instructors:

- Paula McElroy:  Science and History Instructor at Marlette Jr/Sr High School
  - MA – History (Oakland University)
  - MS – Applied Science Education (Michigan Technological University)
- Tom McElroy:  Retired Science Teacher (Lakeville Community Schools)
  - MS – Science Education (Eastern Michigan University)
  - Archaeology:  Western Michigan University (Newaygo Burial Mounds)
  - Amateur Archaeology:  Fort Edward, New York

# Course Design: Study of Archaeology

- First 2 weeks of class
- History, Fields of Study, Methodology, Purpose and Ethics in Archaeology
- Labs:  How to Record and Classify artifacts



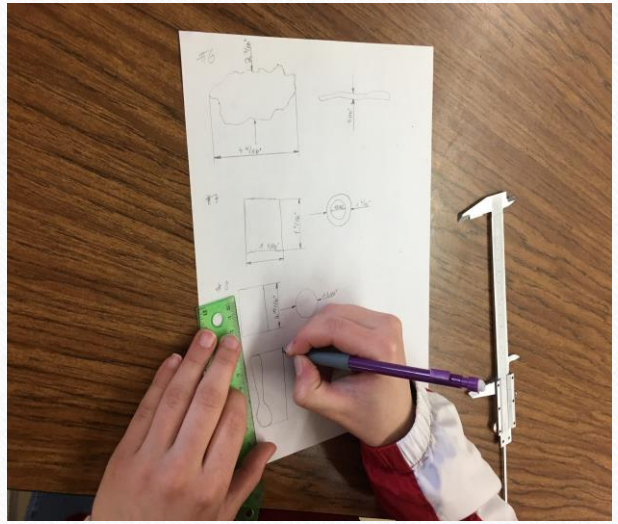
# Course Design: History of Marlette

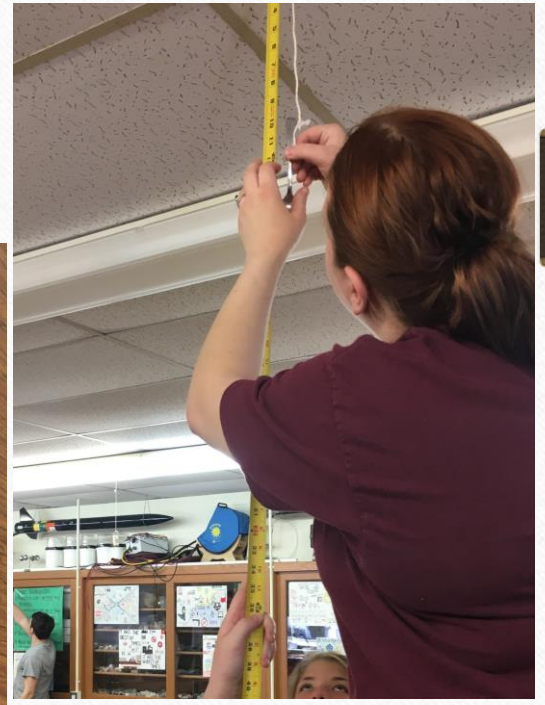
- 3 Weeks of Study:
  - Native American History of Marlette (Paleo to Woodland)
  - History of European Contact
  - Early American History
  - History of the Village of Marlette
  - History of Marlette High School (Current Site of Building)
  - Labs: Native American Manufacturing Lab

# Native American Manufacturing Lab

# Course Design: 3-D Spatialization and Mapping

- 2 Weeks
- Methods of 3-Dimensional Mapping:
- Datum Points, Lay-Out of Pits and Pit Sites, Recording Artifacts in 3-D
- Student generated maps of Marlette High School and surrounding area
- Labs: 3-D Mapping Lab, Marlette GPS/Mapping Lab





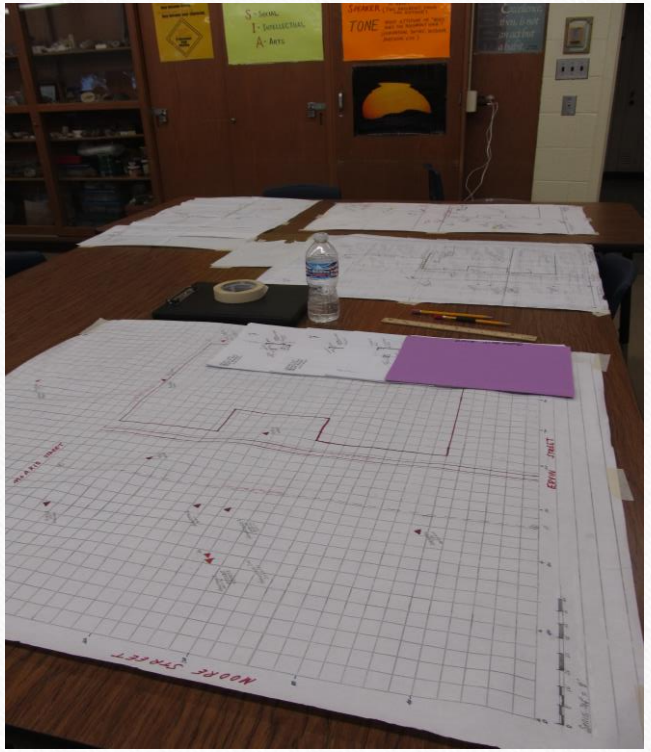
# Ground Penetrating Radar as a Tool for Archaeology: Mapping the "void" under the parking lot.

# Course Design:  Dating Techniques

- 2 Weeks
- Absolute vs Relative Dating:
- Stratigraphy
- Carbon-14 Dating Methods:
- Obsidian Hydration Dating:
- Dendrochronology:
- Labs:  Marlette Dendrochronology Lab

# Course Design: Geology of Marlette

- 1 Week
- Review of commonly found rock and mineral types in Marlette
- In-Depth look at Soil Profiles
- Review of Marlette Geology
- Labs: Michigan Rocks and Minerals Lab, Soil Profile Lab



# Course Design: Development of a Research Question and Proposal for a Dig

- 1 Week
- Students research and apply everything they have learned up to this point.
- Develop a Research Question based on their prior learning, the local area surrounding the High School building, and their own curiosity and interests.
- Pit Groups develop a Hypothesis and Research Proposal for a 3x3 ft Test Pit
- Research Questions, Hypothesis, and Research/Dig Proposals are approved by Instructors

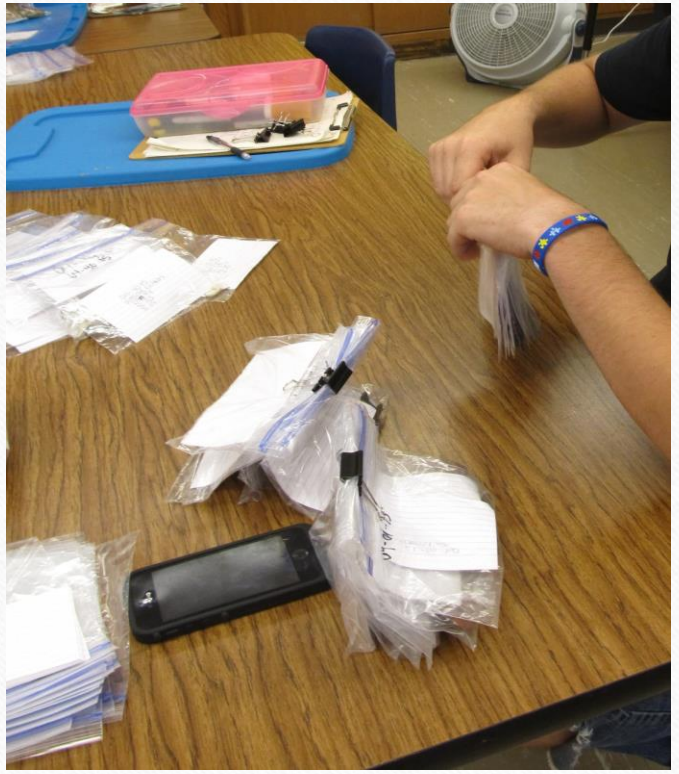
# Course Design: Dig

- 4 weeks
- Layout of Baselines and Datum Points
- Test Pits 3x3 ft square
- Collection and Recording each artifact found in dig
- Closing of Pits

# Course Design: Conservation/Cleaning and Cataloguing of Artifacts

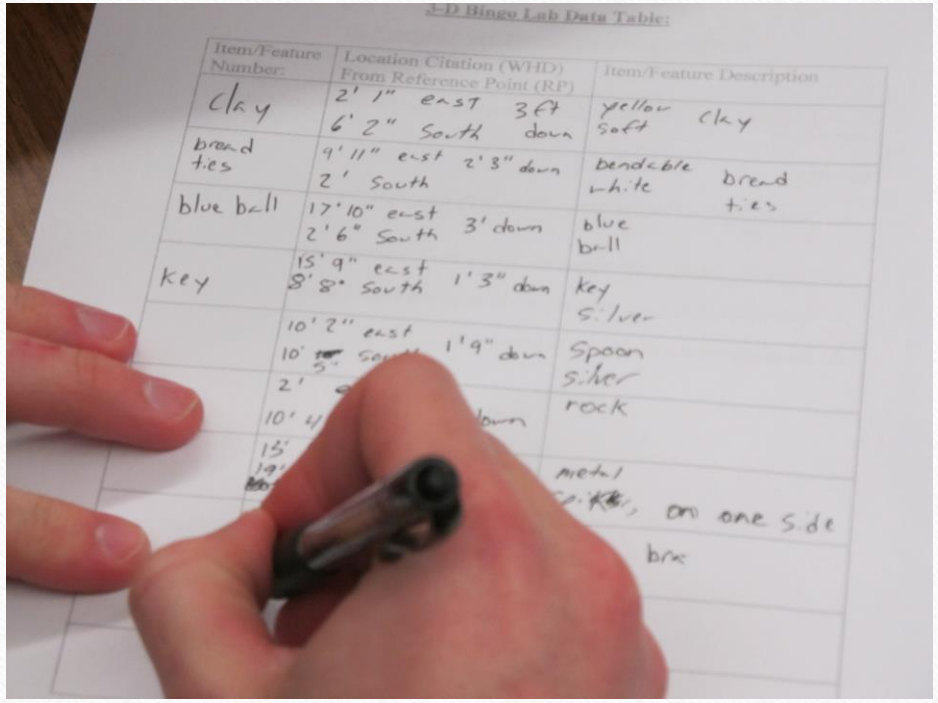
- 2 Weeks
- Artifacts are cleaned and conserved (when necessary).
- Artifacts are permanently catalogued
- Artifacts are researched and profiles are developed
- Artifacts are stored in locked, protected and permanent storage

# Cleaning and Cataloguing:

# Course Design: Written Reports

- 1 Week
- State of Michigan Archaeology Report
- In-depth report of students' findings, pit and site maps, artifacts, research and dig techniques, pit soil profiles, research questions and proposals, and student conclusions and suggestions for future research.
- Students' Final Exam for the course!



# Course Design:

- Field Trip to University of Michigan
  - Department of Paleontology
  - Museum of Natural History
  - Museum of Archaeology

# Course Design:

- Archaeology Current Event Reports and Presentations
  - Each student chooses a current event (in the past year) in Archeology to research and report on.
  - Students write a written report on their Current Event.
  - Students present their findings to the class including pictures and details of the dig and its importance to the Field of Archeology
  - Give students a broad view of current work and recent findings in the field of Archeology.

# Course Successes:

- Students have learned and have become more aware of the peoples and cultures that came before them from pre-history to the modern era.
- Students have produced a "real" Archaeology report filed with the State Archeologist that contributes to the field of Archaeology in Michigan.
- Students have successfully "practiced" the Methodology of Science by creating a research questions, developing a Hypothesis, carrying out a scientific experiment, interpreting the results, and finally reporting those results to the scientific community.