# **Technology-enhanced Learning - Activity Plan**

**Name:** Introduction to Stone Tool Technology in Archaeology **Developer:** Meaghan Peuramaki-Brown, Athabasca University **Course:** ANTH 272 Introduction to Archaeology

- first year university, online, individually paced, asynchronous
- can be easily adapted for a blended course or face-to-face

Length of Activity: 60-70 minutes

#### **Lesson Summary:**

• Students will review the basics of lithic (stone) tool technology and flint knapping (process of making chipped stone tools), and learn how to distinguish a human-made flake from a naturally occurring flake.

### Lesson Objectives:

- To provide students with the basic archaeological terminology for stone tool technology.
- To provide students with identification techniques for human-made chipped stone artifacts.
- To provide students with an introduction to the skills and physics/mechanics required to produce chipped stone artifacts.
- To provide students with an introduction to various artifact visualization techniques (video, drawing, 3D scans).

#### **Resources/Technology – Teacher**

- Computer, internet (high-speed for scan uploading), 3D scanner.
- Moodle course platform including share/discussion board, Sketchfab, YouTube.

#### **Resources/Technology – Students**

- Computer, internet (high-speed preferable for 3D scan manipulation).
- Moodle course platform including share/discussion board, Sketchfab, YouTube.
- Rock, found anywhere (backyard, park, river, etc.), and thick piece of glass (e.g. bottle base) or porcelain (e.g. old toilet piece)

## Online Resources

- VIDEO: "Basics of flintknapping". (Filmed and uploaded by Paleoman52, 2014.) https://www.youtube.com/watch?v=AJk1qfRczLI
  - Shows tools and techniques involved in flint knapping (16:03)
- MANIPULABLE 3D IMAGE: "Chert flake 134". (Scanned and uploaded by M. Peuramaki-Brown, 2016.)

(https://sketchfab.com/models/bb7237b7183847348016f2ce42031eff))

- Shows a complete, human-made flake recovered from an archaeological context. Student can use mouse/track pad to manipulate object in 3D space.
- Hosted on Sketchfab platform. Free to join (<u>www.sketchfab.com</u>)

## Learning Materials

• DIAGRAM: Shows basic elements to identify on 3D scan and on experimental flake student will produce. (Created by M. Peuramaki-Brown, 2017.)



## **Intended Curriculum Learning Outcomes**

- Students will develop basic archaeological identification skills.
- Students will develop basic archaeological visualization skills.
- Students will develop basic archaeological experimentation skills.

#### **Instructional Activities**

- 1. Teacher will (15 minutes)
  - Introduce (through audio lecture, video, and/or text) the topic, goals, terminology, resources and how to use, assignment.
- 2. Students will (45-55 minutes)
  - View video showing flint knapping tools and demonstrating process of flake removal.
  - View diagram with characteristic features of a flake.
  - Identify elements from video/diagram on manipulable 3D scan of a flake.
  - Try to produce a flake from your piece of glass/porcelain using a rock (the hard hammer percussion technique demonstrated in video).
  - Share results of experimental flake production on the Moodle share/discussion board in the form of a photo and written description or short video. Were you successful? Why or why not? How does your resulting flake compare to the diagram and 3D scan? What features can you see? Which can you not? How does it compare to the flint knapper in the video (remember, he is a professional)?

• Comment on at least one existing post (Similar results? Different? Why?)

## Learner Assessment

- Students will demonstrate basic identification, experimentation, and digital manipuation skills.
- Students will engage in self-directed learning.
- Students will engage with teacher and other learners.