

Course: Polymer Science (11546PB-2015)
Grade level: 10-12
Sources: Mississippi Polymer Science Instructors

Raku Pottery Project Teacher Instructions

All student work on the assessment is to be performed during the testing window of February 1 – March 23, 2018. The PBA project is designed to be embedded into normal instruction, meaning that course instructors can guide students through the project during class time. All student products are due to the RCU by 5:00 PM on Friday, March 23, 2018. Instructions for submitting student products can be found in the PBA Manual for Revision Programs (<http://rcu.msstate.edu/Assessment/Performance-Based-Assessment.aspx>).

Essential question: What is the connection between ceramics and metals?

Overview:

The students will create a step-by-step Raku pottery tutorial. When completed, the students should have 2-3 Raku samples and a digital slide presentation. The presentation should address the essential question for the purpose of educating the audience. It should include photos of students' finished pottery, safety considerations, and labeled diagrams / visual models as appropriate.

Alignment:

- 21st Century Skills
 - CS 7: Critical Thinking and Problem Solving (Reason Effectively, Use Systems Thinking, Make Judgments and Decisions, Solve Problems)
 - Indirectly: CS6-13, 15
- College and Career Readiness Standards
 - WHST.11.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
- CTE Curriculum Unit
 - Unit 8: Materials Science

Time requirements:

2-4 weeks or as appropriate for each district's schedule

Materials and resources:

- Raku clay
- Raku glazes
- Metal oxides (if glaze is prepared onsite)
- Scale or balance (if glaze is prepared onsite)
- Front-loading kiln
- Pots, cans, or other flame-proof container with a lid
- Newspaper or other combustible
- Quench bucket with water
- Safety equipment
 - Face shield
 - Kevlar or other high-temperature gloves
 - Long-handled tongs
 - Long sleeves or a lab coat, etc.
 - Well-ventilated area (outside or under a fume hood)
- Paintbrushes
- Computers and software for slide presentations

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Raku Pottery Project Student Instructions

Essential question: What is the connection between ceramics and metals?

Overview:

You are the director of a ceramics studio operating within a youth arts center for your city. You desire to teach a course for novice learners concerning the production of Raku pottery. The city official responsible for the youth arts program requests that you create samples using this Raku technique for her to consider. She also asks that you produce a step-by-step digital slide tutorial for the Raku process in order to visually illustrate it for her and the rest of the city council who must consider the proposal of offering this new course. You must also address safety as part of this process. Photos of your pottery samples and safety considerations should be included in the presentation.

Part 1. Create the pottery

Create 2-3 pieces of Raku pottery, documenting the process as you work through photos, written observations, processing records, etc.

Part 2. Collect data

Examine your Raku pieces and collect data and observations about the results of the firing process.

Part 3. Prepare presentation

Create a digital slide tutorial (PowerPoint, Keynote, Google Slides) that describes the Raku procedure and explains the connection between ceramics and metals. Be sure to include photos of your finished pottery, labeled diagrams, and visual models as appropriate.

Part 4. Submit your work

Convert your document to a PDF to prepare it for upload. Name the PDF as your MSIS number, last name, and first name (ex. 000123456 Smith John).