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# Ceramic Beetles



**Grade:** 2nd

**Medium:** Clay

**Learning Objective:** Students will:

- study rainforest beetles
- make a symmetrical, anatomically correct beetle
- use clay tools & learn art vocabulary

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## **Elements of Art**

**Form:** an object found in three dimensions, having height, width and depth.

**Shape:** a two-dimensional (flat) area enclosed by a line. It is either **geometric** (symmetrical, usually straight edged or circular) or organic (curved, irregular).

## **Principles of Design**

**Balance (Symmetrical):** having exact appearance on opposite sides of a central dividing line or plane.

## **Additional Vocabulary**

**Clay:** a mixture of minerals and clay particles which is often found at lake sides and dug out of the ground. This material is malleable and when fired becomes permanently hard, like stone.

**Glazes:** glazes are a mixture of clay, water, colorants and silica. When fired they become colorful, hard and glassy.

## **Materials & Supplies**

- Low Fire clay – tangerine-sized balls, 1 per student
- Pencils or wooden skewers
- \*Hire fire wire 16 gauge – cut 3 per beetle to 5” lengths
- \*Hire fire wire 20 gauge – cut 1 per beetle to 5” lengths
- Needle nose pliers
- Glazes
- Glaze brushes
- Images of rainforest beetles
- Wire clay cutting tool
- Toothpicks or alphabet pasta for initials

## Context

Beetles are insects. They have three parts to their body: head, thorax and abdomen. They have six legs and 2 antennae. They are symmetrical along a center line.



## Advanced Preparation

This lesson requires two sessions, you will need to book time and kiln time for both.

- Students build the work, it dries for two weeks, then is fired.
- Students glaze the work; it's fired a final time.

Find images of rain forest beetles to show on screen or print on paper for them to look at.

Cut the High fire wire into 5" lengths, 3 per beetle.

Cut clay into small 3.5" x 3.5" x 1" blocks using the wire cutting tool, students can mold or pound into a tangerine sized ball.



## Tips & Tricks

- "High fire" wire is the only wire that can be used for firing clay. It will make it through two firings and won't gas off anything harmful. It can be purchased at Seattle Pottery or online.
- Volunteers will put the wire through the beetle bodies after the students are done, while the clay is soft.
- The glazing step can be quick, so you may want to do it as a pullout instead of having the whole class for 20 minutes.

## Discussion Points

How do you know that something is an insect? (Consider adding a Beetle car, cow or building into the slide show so they must pick out the ones that are not insects)

Find the body parts of a beetle in each image. Point out the symmetry of coloring on the body.

What is clay? Have they ever found clay someplace? Where?

## Reflection Point (Assessment of Learning Objectives)

Students will create a symmetrical, anatomically correct beetle after looking at rain forest beetles. They will become familiar with the properties of clay and tools used to work with clay.

## Instructions for Lesson

### Building - Preparation

Set up your workspace with butcher paper taped to the tables or canvas for students to work on. Every student's space should have a block of clay and a pencil.

In this project students will mold their forms from the piece of clay they have. They will only take clay off they don't want it. All the shape will be "pinched" out of the main ball. We will not be doing any attachments – *this includes any horns for stag horn beetles*.

Leave up images of beetles so students can see them.

### Building - Lesson

1. Have the students roll their block into a ball between their hands.



2. Demonstrate molding your clay into the general shape you want: long rectangle, square, rectangle or wedge. You can tap the sides on the tabletop or smack with your hands. Leave it thick enough to pull more body parts from it. Have the students follow along step by step.
3. Demonstrate gently squeezing and pulling clay to create indentations where the head and thorax meet. If students are creating a stag horn beetle or one with large pinchers, then make sure to leave enough clay for those parts.



4. Demonstrate pulling out a horn or pinchers. These shouldn't get thinner than 1/3", so the horn will have to be a little thick and end quickly. Otherwise they are too fragile and break easier.
5. Have the students mold their beetle.
6. Remind them that they don't need to create legs, as these will be wire.
7. Wander and check with students checking to be sure their appendages are thick enough and that they are only pinching out their form.
8. Students can add details with their wood tools or fingers by pushing clay around: wing definition, eyes, bumps, stripes.



9. As the students finish help them gently put their initials on the belly of the beetle with the toothpicks or alphabet pasta. Be sure they are legible.



10. Volunteers will press the wire legs through the beetle from side to side to create six legs.
11. Leave the legs sticking out as the beetles dry and during firing.
12. Keep your demonstration piece in case someone's breaks in the firing and make a couple more if there are students absent.

## **Glazing - after bisque firing**

### **Preparation**

*Before you work with students, use your needle nose pliers to curl the end of the wires into a circle to create a foot. And bend the legs down so that the beetle stands on all six feet.*

Set up your workspace with butcher paper taped to the tables. Pour glazes, in small amounts, into small cups. The brush with that glaze 'lives' in that cup so they will need to take turns with glazes. Set out the images of the beetles on the table to inspire students to glaze brilliantly.

Glaze is not paint, it's more like clay/glass mixed with water to spread it:

- Show your students the labeled glaze samples for the labeled glazes. Many glaze colors don't initially look like they will when fired. That can be confusing for kids.
  - The glaze color develops during a chemical process in the kiln at high heat; mixing glazes is a guessing game.
  - Glaze doesn't spread smoothly like paint. The clay absorbs the moisture in the glaze, sometimes it feels like your brush is sticking. So glazing is more of a dabbing motion than a "brushing" motion.
  - Glazes need to have multiple coats of the same color (how many is listed on the label). They dry quickly. You will dab on a coat, let it dry (30 seconds) until it looks chalky and then put on the next coat. You've used too much if you see tiny 'pinholes' form in the dried glaze. You can easily rub off the extra globs of glaze when it's dry.
1. Explain glazing and what you want them to do. Demonstrate on your own sample.
  2. Hand out their bugs.
  3. Students can glaze the whole body of the bug including the underbelly (your legs work as stilts to keep the glaze off the kiln shelf).
  4. As you collect the bugs, wipe any glaze off their feet before they go into the kiln.

**Examples:**



**References and Attributions:** Lesson Written by Juliette Ripley-Dunkelberger.

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## **Notes for Educators**

### **21<sup>st</sup> Century Thinking Skills**

Goal setting, observing, making connections, visualizing, sequencing, comparing/contrasting, finding evidence, problem solving, cause and effect, decision making, evaluating.

### **WA State Learning Standards**

(VA:Cr1.1.2) a. Brainstorm collaboratively multiple approaches to an art or design problem.

(VA:Cr1.2.2) a. Make art or design with various materials and tools to explore personal interests, questions, and curiosity.

(VA:Cr2.1.2) a. Experiment with various materials and tools to explore personal interests in a work of art or design.

(VA:Cr2.2.2) a. Demonstrate safe procedures for using and cleaning art tools, equipment, and studio spaces.

(VA:Cr3.1.2) a. Discuss and reflect with peers about choices made in creating artwork. This happens if time is allotted for this.

(VA:Pr4.1.2) a. Categorize artwork based on a theme or concept for an exhibit.

(VA:Pr5.1.2) a. Distinguish between different materials or artistic techniques for preparing artwork for presentation. This happens when metal and clay are used for different sculptural purposes.

(VA:Re7.1.2) a. Perceive and describe aesthetic characteristics of one's natural world and constructed environments.

(VA:Re9.1.2) a. Use learned art vocabulary to express preferences about artwork.

### **Arts Integration Opportunities**

Science: rain forest, ecosystems.

Procedural writing.