

**Instructor:** Ailen Borres

**Week:** 4

**Subject:** Science

## WOOD WOBOTS – WOODWORKING

### Description of Activity

Using modeled materials, students will design and build **wobots** (wood robots) based on their understanding of structures and mechanisms. They will discover how structures and mechanisms are built, and how they withstand force. They will learn how the purpose of structures and their mechanisms can influence the final design. Through their design, they will demonstrate an understanding of the elements and principles of design. Students will learn basic woodworking techniques.

### Learning Objectives:

After this lesson, students will be able to

- Explore and discuss assemblages made with found materials, mostly wood.
- Understand basic woodworking techniques. They will learn about different types of sculptural/building materials and how they can be used to build their structures.

### Standards:

<b>STANDARD: 1</b>	The student will understand wood as a building material, from tree growth to lumber use in construction, cutting of boards from logs, grading of lumber and treating.
<b>BENCHMARK: 1.1</b>	The student will explain how the tree is cut into lumber, describes the kinds of wood, grades of lumber, how they are stored

### Materials Required:

- Images of Pablo Picasso's wood sculptures of animals and people, pieces of wood in various sizes and shapes, dowels, hot glue gun, hot glue stick, handsaw, hand drill, sandpaper, screwdrivers

### Learning Activities:

- Have students in groups explore and discuss assemblages made with found materials, mostly wood.
- Based on the instruction and demonstration, students will build their wobot using a variety of wood scraps, nails, screws, hooks and various metal hardware. They will create families and villages of wobots, working together to produce them.

- Discuss types of wood and the trees that each comes from.
- **Guiding Questions**
  - *What kinds of lines or shapes can you find in the structures?*
  - *What are the proportions of the shapes to the whole?*
  - *What colours does the artist use?*
- **Art Terms to be Covered**
  - *Elements of design*
  - *Principles of design (proportion)*
  - *Design (composition)*
  - *Dimension*
  - *Geometric shape*
- Resources Picasso. Sculpture. Exhibition Catalogue. Museum of Modern Art, November 2015 Through the Eyes of Picasso: Face to Face with African and Oceanic Art, Yves Le Fur, 2017 A Wobots Christmas, 2003, 60”  
<https://www.youtube.com/watch?v=C3pUikyArw>

### **Safety:**

Watch for splinters and be sure to wear eye protection in a lab setting.

### **References:**

- Website: [www.guitarbuilding.org](http://www.guitarbuilding.org)  
<https://www.math-aids.com/>  
 ASDOE Curriculum

### **Reviewing Faculty Cohort Members:**

[Kenneth Jagon](#) NVTHS, Construction Trades [kenneth.jagon@doe.as](mailto:kenneth.jagon@doe.as)  
[Seanette Thompson](#) NVTHS Mathematics [seanette.thompson@doe.as](mailto:seanette.thompson@doe.as)  
[Abigail Talifa-Maga](#) NVTHS English [abigail.talifa-maga@doe.as](mailto:abigail.talifa-maga@doe.as)  
 Ailen Borres NVTHS Science [ailen.borres@doe.as](mailto:ailen.borres@doe.as)